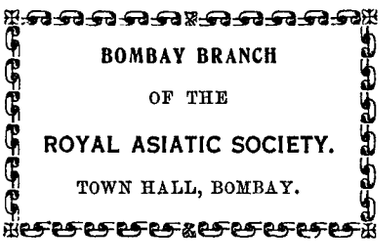
Land Records and
Agriculture, C. P.
report

1892-93 to 1900-01



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REPORT

OF THE

DEPARTMENT OF LAND RECORDS AND AGRICULTURE,

CENTRAL PROVINCES.

133967

FOR THE

YEAR 1892-93

ENDING

SEPTEMBER 30TH 1893.

ROYAL ASIATIC

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SUBJECT.

Annual Administration Report—Department of Land Records and Agriculture for 1892-93.

FROM

J. B. FULLER, ESQ., I. C. S., C. I. E.,

DIRECTOR OF LAND RECORDS AND AGRICULTURE,

Central Provinces,

To

THE SECRETARY TO THE CHIEF COMMISSIONER,

REVENUE DEPARTMENT,

Central Provinces.

Dated Nagpur, the 13th February 1894.

SIR,

I have the honour to submit the usual Annual Report on the working of the Department of Land Records and Agriculture during the year ending the 30th September 1893.

I.—ORGANIZATION AND MAINTENANCE OF VILLAGE RECORDS.

2. Proposals have been drawn up by the Settlement Officers of Saugor, Narsinghpur, Wardha and Nagpur for the revision of the patwari staff, where necessary, the expansion of the controlling Land Record staff (to be paid from the Patwari Fund) and for the determination of the rates at which Patwari cess is to be levied under the new Settlements. In all four districts ryots will contribute at the rate of 3 pies per rupee of rental. The rates at which proprietors will contribute have been fixed in Saugor as 5 per cent. on the revenue, in Narsinghpur at 4½ per cent., in Wardha at 4 per cent. and in Nagpur at 3½ per cent. The maximum rate leviable is 6 per cent., so that in all cases the demand has been kept within moderate limits.

3. The modifications sanctioned by the Chief Commissioner in the patwari halkabandi of the Damoh district have been worked out in detail, very large charges having been reduced and 16 new circles having been in this way created. Great care has been taken to interfere with the limits of existing circles as little as possible, as a transfer of villages from one patwari to another involves, of course, a waste of the local knowledge which is the basis upon which the village record system really rests. Similar proposals for the Jabalpur, Narsinghpur and Wardha districts (in all of which the re-settlement operations are on point of completion) are now awaited.

4. The desirability of reducing the patwari staff of the Nimar district has not been lost sight of, and two more circles were abolished during the year.

5. The system of rough measurement referred to by me last year, as having been substituted for area estimation by the amount of seed sown, in preparing the annual papers of zamindari villages which are not sufficiently advanced for regular survey, has apparently worked pretty well. I was able last field season to check the records of some villages in the Chanda zamindaris which had been prepared in this way, and was satisfied with the results. The Deputy Commissioner of Sambalpur reports in particular that during the year records were prepared in this fashion for 454 villages, and that the areas are much more reliable than those formerly estimated according to the supposed seed capacity of the land.

6. In regard to the general conduct of the Land Record staff of patwaris and Inspectors reports are satisfactory, save in the case of Raipur where the Deputy Commissioner states that the patwaris, as a body, are generally drawn from a very low class, are ignorant of their duties (apart from the technical work of surveying), and are inclined to be insubordinate. Punishments have certainly been very numerous in this district, no less than 52 men (out of a staff of 709) having been dismissed, and fines reaching the large proportion of $5\frac{1}{2}$ per cent. on the total pay. The patwari staff here is in great measure a new creation, the number of circles having been trebled at the re-settlement. The local supply of qualified candidates is very limited, and no doubt a considerable number of men have been enlisted who are not fit for their posts. But it is right that I should state that a large number of circles in this district came under my inspection last field season, and that I was, on the whole, satisfied with the results; though I found reason to believe that far too much power was allowed to the District Superintendent of Land Records by the Deputy Commissioner of that time. It is very possible that this may to some extent explain the large number of punishments inflicted. The Deputy Commissioner now reporting did not take charge until after the close of the field season. From the other two districts of the Chhattisgarh division—Bilaspur and Sambalpur,—where a large proportion of the patwari staff is also newly enlisted, no such unfavourable reports are received.

7. In dealing with the village record work of the year I will follow the district grouping adopted in last year's report, *viz.*:—

(A)—districts still under survey;

(B)—districts under assessment;

(C)—districts in which survey or assessment operations are not in progress, and in which the patwaris are working under the ordinary rules.

Class A includes Mandla, Betul, Chanda, Bhandara and Balaghat, in which most, if not all, of the patwaris were engaged on the survey of their villages.

Class B includes Saugor, Jabalpur, Narsinghpur, Hoshangabad, Chhindwara, Wardha and Nagpur in which a large proportion of the patwaris were occupied in work connected with assessment; also Damoh, in which the new rental and revenue assessments were being announced.

Class C includes Seoni, Nimar, Raipur, Bilaspur and Sambalpur.

Patwaris' residence.

8. In the matter of compelling the patwaris to reside within their circles much progress cannot be expected in districts of Class A, as the patwaris are necessarily absent from their houses during a great portion of the year. The subject, however, received attention, and some improvement is shown by the Betul, Bhandara and Balaghat districts, though in all (and especially in Betul) the number of non-residents is still very large.

In districts of Class B there is also a difficulty, as in them also the patwaris of the area under assessment during the year are away from their homes for several months, engaged either in the attestation work of the villages in their circles or in completing their records in the Settlement Office. Great improvement is, however, shown in the Chhindwara, Wardha and Nagpur districts, where the number of non-residents has been reduced from 21, 123 and 120 to 12, 46 and 78 respectively. Matters are on a satisfactory footing in the Saugor, Narsinghpur and Hoshangabad districts where the number of non-residents is shown to be very small. In the Jabalpur district only 38 patwaris out of 403 are shown as non-resident without permission, but some enquiries which I have recently made during a tour through this district have given me good ground for suspecting

that non-residence is far more common than these figures would show. I have addressed the Settlement Officer on the matter. The Damoh district shows 18 patwaris as non-resident without permission against 14 in the year preceding, but the Deputy Commissioner explains that a large proportion of the number are newly appointed or are working on probation.

In districts of Class C we should find material improvement, as here there is no excuse for non-enforcement of the rules. In Seoni the number of non-residents is shown as 12, but I believe that this greatly understates the case. I have recently found that the Deputy Commissioner permitted his Tahsildars to summon the patwaris to the tahsils during the rains to assist in the kanungo's office. This is directly against the spirit of the rules, and it is of course unreasonable to expect that patwaris will take their families to remote villages if they are liable to be called away to a distance for weeks at a time. The Nimar district shows only 10 non-residents, though here again the Deputy Commissioner suspects the accuracy of the returns. In Raipur the number of non-residents was reported last year as 93. The number is now given as 213, and it is plain that the former figure was quite incorrect. The Bilaspur and Sambalpur districts show very well if their figures are to be trusted; in the first only 11, and the second only 22 patwaris are now non-resident.

In promoting the efficiency of the patwari staff there is hardly any measure of more importance than insistence on their residing within their charges. A patwari who lives at a distance from his circle cannot acquire the knowledge of local circumstances which give him his chief value,—he is not at hand to write up the ryots' rental accounts,—he cannot be found by his inspecting officer, and last, but not least, he is free from the check upon dishonesty which results from the pressure of social opinion. Inspectors are now obliged to submit monthly lists of non-resident patwaris, and this should ensure to the Deputy Commissioner reliable information. It is hoped that matters will improve.

Preparation of the annual village papers.

9. In taking account of the punctuality with which the annual village papers were filed, districts of classes A and B may be omitted from consideration, though all patwaris whose circles are not under survey or assessment are not withdrawn from their ordinary duties, and prepare their village papers as usual.

In *Seoni* there was a month's delay in the filing of many milan khasras, but the other papers were rendered in due time. In *Nimar* also there was very little delay. In *Raipur* and *Bilaspur* the only delay was in regard to the jamabandis, all of which, save 6 in Raipur and 18 in Bilaspur, were however filed within a month after date. In *Sambalpur* there was considerable delay in filing a large number of *jinswars*, but it is explained that this was due to their detention by the Inspectors for purposes of check. All jamabandis were filed in this district within a month after date.

So far then as the punctuality of the patwaris' work is concerned, all districts of class C show fairly satisfactory results.

Check of village papers.

10. In Secretariat letter No. 3853, dated the 14th October 1892, the Chief Commissioner issued instructions under which officers of the District Revenue staff were to undertake to check village papers in those areas of districts under Settlement in which the patwaris were engaged on their ordinary duties, the object being to familiarize District officers and their Assistants with the work of inspection, against the time when the withdrawal of the Settlement staff would throw the entire control of the Land Record Staff on to their hands.

These instructions generally bore no result during the year under report. In five of the districts under settlement,—Saugor, Jabalpore, Narsinghpur, Hoshangabad and Nagpur—no papers were inspected by Deputy Commis-

sioners, Assistant Commissioners or Tahsildars. In the remaining two districts—Chhindwara and Wardha—Tahsildars checked papers of 89 and 49 villages respectively, and in Wardha the papers of 10 villages were checked by the Deputy Commissioner, Mr. Nedham.

I contrast below for the five districts of Class C the amount of testing effected by Deputy Commissioners, Assistant Commissioners, and Tahsildars as well as by the officers of the Land Record staff:—

District.	Percentage of khasra entries checked by Inspectors.	Amount of testing effected by—					
		Superintendents and Assistant Superintendents of Land Records.		Tahsildars.		Deputy Commissioners or Assistant Commissioners.	
		Number of		Number of		Number of	
		Villages.	Entries.	Villages.	Entries	Villages.	Entries.
1	2	3	4	5	6	7	8
Seoni ...	16	317	7,987	162	2,922	...	...
Nimar ...	38	326	5,345	1	33	84	553
Raipur ...	9	830	(a)21,389	53	4,512	...	...
Bilaspur ...	11	768	37,436	53	2,469	32	338
Sambalpur ...	12	386	13,407	79	713	40	620

The Seoni, Raipur, Bilaspur and Sambalpur districts show a satisfactory increase in the number of entries tested by Inspectors. Nimar shows a decrease, but fields are large here and the percentage tested is very high (38). The amount of inspection exercised by District Superintendents and their Assistants is also satisfactory. Tahsildars tested some papers in Seoni, Raipur, Bilaspur and Sambalpur, though only in Seoni and Sambalpur was their testing at all adequate. In Nimar the Tahsildars did practically nothing. The Deputy Commissioners of Seoni and Raipur did not either themselves or by their Assistants examine the papers of a single village. In the other three districts some practical interest was taken, and in particular by the Deputy Commissioners of Nimar (Mr. Duff) and of Sambalpur (Mr. Crump).

The testing of jamabandis in the tahsil by the kanungos shows a marked improvement and the percentage of errors discovered was very small.

11. The condition of village boundary marks and traverse stations receives attention under special instructions which have been issued, and as a general rule the villagers repair them annually in cases where the marks are of a character requiring annual restoration.

12. Under the orders of the Chief Commissioner patwaris in the Nimar, Wardha, Nagpur and Chanda districts have been required to prepare mauzahwar lists of *tari* yielding palm trees for use in the Excise Department. The lists are to be revised quinquennially.

13. During the year I prepared a re-draft of the rules for the superior Land Record staff (Inspectors, Assistant Superintendents and Superintendents) which, subject to certain modifications, was issued under the authority of the Chief Commissioner with Revenue Book Circular II—17, dated the 24th February 1893. A subsequent Revenue Book Circular (No. II—18, dated

(a) Exclusive of some entries checked by an Assistant Superintendent who was transferred to Foreign Service during the season.

the 27th June 1893) communicated the Chief Commissioner's instructions in regard to the extent and character of the supervision to be exercised by District Officers and their Assistants over the work of the Inspectors.

14. The forms in which the Patwari Fund Accounts are maintained in district offices were revised during the year, and instructions are issued, which will, it is hoped, facilitate work in future and lessen the number of discrepancies between the local accounts and those kept by the Comptroller. The condition of the Patwari Fund has been separately reported upon. It has a large balance to its credit (Rs. 4,18,560), and proposals have been submitted for the introduction at once of the sanctioned scheme under which the cost of the superior Land Record establishments (Inspectors, &c.,) throughout the Provinces is to be charged to the Patwari Fund.

II.—Analysis of districts with reference to protection from famine.

15. There is nothing to remark under this head of the report, except that the approaching completion of the survey will render possible a precise statistical and economic examination of the various distinct tracts of which the Provinces are composed.

III.—System of collection of rent and revenue in precarious tracts.

16. At the desire of the Government of India, District Officers have been requested to furnish such information as may be available concerning the direction and extent of hailstorms which have occurred during the past ten years. The Northern districts of these Provinces are very liable to hailstorms, particularly about the time of the spring harvest, and the gravity of the damage which is sometimes caused has been recognized by the issue of special rules, drafted by me, for the suspension of rents and revenue, a measure which had not previously been regarded as necessary in these Provinces.

17. I referred in last year's report to the systematic collection by landlords in some districts of an undue share of the rent after the autumn harvest, before the spring crops are gathered. A fresh illustration of this has been furnished by the Settlement Officer of Hoshangabad who has reported that in a tract which is almost wholly dependent on the wheat crop and in which the Government has been delaying the collection of $\frac{7}{8}$th of its revenue till the spring harvest is gathered, the landlords have nevertheless been collecting half their rental before the spring harvest,– that is to say, have been systematically compelling their ryots to annually borrow at interest half a year's rental. The Tenancy Act contains a provision (Section 11) under which a ryot can recover from his landlord a heavy penalty for rent exacted before date. The Section has been a dead letter and its complete failure to check a practice which is grossly injurious to the ryot and in direct opposition to the policy of Government is a striking indication of the failure of legislation on the ryots' behalf, which leaves it to the ryot to take the initiative.

IV.—Measures of protection against famine.

(1).—*Fodder Reserves and Arboriculture.*

18. The acquisition has been completed of eleven plots of unculturable land in the densely populated area of the Raipur and Bilaspur districts, to be managed as Fodder Reserves in the interests of the people. In regard to the Fuel and Fodder Reserves which were established in the Sambalpur district at its recent re-settlement the Deputy Commissioner writes that they are managed in the Revenue Department by Patwaris and Inspectors, and are improving in condition. Stricter conservation is to be enforced, but I trust that it will not be influenced by any desire to gain an income for Government.

Experiments undertaken in this Department on the barren range of trap hills near Nagpur to ascertain whether jungle growth could be assisted by sowing seed have so far resulted in failure, but will be continued during the present year on rather different lines.

19. The term "Fuel and Fodder Reserves" customarily refers only to a few small plots of land which have been specially taken up during the past six years, but as a matter of fact the greater portion of the Government Forest Reserves—covering nearly 20,000 square miles of country—is of practical value as subsidiary to agriculture and not as a source of commercial products. The sale of timber constitutes indeed quite a minor item in the revenue of the Forest Department, which represents in great part money paid by the agricultural population for services or supplies connected with their cultivation. My long acquaintance with the rural circumstances of the Provinces may perhaps be held to justify the expression of my opinion that the management of the Forest Department too often ignores the essential connection between its lands and those under cultivation, and follows lines which, however efficacious in producing revenue, are calculated to cramp, not to develop, the agricultural resources of these Provinces. It would be out of place here to instance in detail cases which I have to support this view. The question is one with which I have had no official connection, and the representations on particular cases of hardship which I have from time to time submitted to the Forest Department have naturally suffered from the appearance of gratuitous criticism. I trust that I may be pardoned for venturing to record here that, in my judgment, more is required to ensure that questions of Forest management and Forest rates which are connected with the practices and requirements of the agricultural population, are not decided without full and careful consideration on the agricultural side, and that the Director of Agriculture should be formally authorized to institute proceedings for the modification of arrangements which are prejudicial to agricultural development, and should be given a voice in the introduction of changes, whether of system or rates, which will affect the circumstances of the agricultural population.

20. Road-side arboriculture has been separately reported upon in my letter No. 3350-116, dated 14th October 1893.

(2).—*Extension of Communications.*

21. The branch railway line to Sambalpur was opened in March 1893 adding 30 miles to the Railway system of the Provinces. Road construction has added 123 miles of new roadway, exclusive of 32 miles of road raised in class.

(3).—*Irrigation.*

22. During the year the Chief Commissioner was pleased, on my representations, to sanction the expenditure of Rs. 5,739 in repairing irrigation tanks in five ryotwari villages of the Chanda district. The rice country in this district is studded with tanks, dating from the time of Native rule, the condition of which is sadly deteriorating. A large proportion of the villages were granted at last Settlement to Maratha absentees whose interest in their estates does not as a rule extend to the expenditure of money upon them. The Government had not itself set a good example having allowed the tanks in villages under its own management to fall into disrepair. Their proper repair may be expected to have a salutary effect over the district at large. It will at all events enable the Deputy Commissioner to use his influence with private proprietors without charge of inconsistency.

23. In the matter of distributing certificates for land improvement, the most prominent facts for notice are the decline of the number distributed in the Seoni district from 198 to 8, and the large number distributed in Raipur (58). The falling off in Seoni is ascribed by the Deputy Commissioner to the withdrawal of the special survey staff which formerly brought improvements

to notice. Considerable numbers were distributed in Saugor, Nimar and Chhindwara, where during the preceding year also the certificates seem to have been appreciated. Distribution fell off largely in Jabalpur and Bhandara. None were distributed in Sambalpur although the Deputy Commissioner has collected information showing that since the re-settlement of the district 108 works of importance have been made at an expenditure of Rs. 19,520 and that 51 works are now in course of construction on which Rs. 12,118 have been expended.

V.—Agricultural experiments, including Farms.

24. The results obtained on the Experimantal Farm at Nagpur have been separately reported upon. The spring crops suffered very greatly from an extraordinary virulent attack of rust which followed the abnormal rainfall of November, and the outturns lost a great deal of their instructiveness. The abundant cold weather rainfall rendered irrigation for wheat unnecessary, and watering only benefited the crop where it had been manured with saltpetre. On the other hand it did not appear to aggravate the injury from rust, perhaps because on the Farm the sub-soil water lies at a great depth from the surface. Experiments were made with various manures, with deep ploughing, and to test the effects of certain crop mixtures and rotations which are in favour with the ryot. The short stapled cotton (*jari*), which is said to be gradually ousting higher class cotton (*bani*) in the Nagpur and Wardha districts, was shown to be actually the more profitable of the two under the circumstances of the year, although its produce commanded a much lower price. Some interesting results were obtained in checking the injury resulting to spring crops from trees growing in their vicinity, by cutting off the surface roots a short time before sowing.

The net cost of the Farm to Government was only Rs. 6,975.

The condition of the Agricultural Class attached to the Farm remains generally satisfactory; but the students who join it come simply in the hopes of getting Government employment, and if the supply of appointments falls off, the attendance will, in all probability, fall off likewise.

25. The number of experimental crop cuttings shows a further increase, being 930 against 678 in the preceding year. Deputy Commissioners contributed 34, Settlement Officers 103 and Assistant Commissioners and Assistant Settlement Officers 518; the rest being made by subordinate agency. The instructions for making these experiments were revised by me during the year, stress being laid on the importance of carefully selecting typical crops and on the undesirability of employing subordinate agency in order to add to the number of experiments made. The information which these experiments have yielded during the past eight years has been freely utilized by Settlement Officers in framing the factors whereby they distribute their assessments over the various classes of land, and is also of considerable value in connection with the general question of the agricultural resources of the Provinces. I have prepared a review of the results, which will be very shortly submitted.

26. A professional sugar-maker was employed in giving demonstrations in the sugar-cane growing area of the Chhindwara district of the practice followed in the North-Western Provinces under which fuel is economized and a better quality of sugar obtained than is commonly produced in these Provinces. The people showed interest, but will, I fear, go no further. The general custom in these Provinces is to make the sugar in heavy batches, which entail the use of a very large boiling pan and the consumption of a great deal of wood fuel. Complaints are general that the growing scarcity of fuel is checking the cultivation of sugar-cane, but economy is impossible without a complete change in the present fashion of manufacture, which can only be expected to yield very gradually to the pressure of circumstances.

VI.—Cattle breeding and Veterinary Establishments.

27. The year saw the establishment of a Civil Veterinary Department in the person of Veterinary Captain F. J Short, who was posted to the Provinces in October 1892. As yet there is but little to report, and the subject which received most consideration during the year was the system on which he was to distribute his attention between these Provinces and the Berars. Horse-breeding for military purposes is unimportant here and is likely to remain so, though there seems to be some chance of success with pony-breeding in the Northern districts. The results so far obtained from the Government stallions which are maintained at Saugor, Damoh and Narsinghpur have been very disappointing, the net gain in three years being (as stated by me in my last report) between 30 and 40 foals, which cost the Government about Rs. 50 apiece. The usual comparative statement is given below :—

Quarter ending	Number of mares served								
	1890-91.			1891-92.			1892-93.		
	Saugor.	Damoh.	Narsinghpur.	Saugor.	Damoh.	Narsinghpur.	Saugor.	Damoh.	Narsinghpur.
December, 31st ...	5	7	5	3	1	2	1	2	5
March, 31st ...	5	3	4	6	4	2	6	3	3
June, 30th ...	5	2	8	6	2	7	7	9	5
September, 30th ...	6	2	4	4	1	3	6	2	1
Total ...	21	14	21	19	8	14	20	16	14

The results are not very encouraging, considering that each stallion should serve about 40 mares per annum. Breeders no doubt hold back owing to the small proportion of servings which prove successful. One result of Veterinary Captain Short's inspections has been that the syces have been sent to Babugarh for training. Veterinary Captain Short is now touring in these districts in order to ascertain what scope there is for any extension or improvement of horse-breeding, what stamp of stallions are required, and whether there is any reasonable expectations that the people will use them if provided.

Nothing has, as yet, been done in the way of *mule-breeding. The question is one to which the Superintendent of the Civil Veterinary Department is now giving his attention.

28. The Veterinary dispensaries at Nagpur and Raipur are under the District Officers and the functions of the Superintendent of the Civil Veterinary Department are limited to inspection. The extent to which the dispensaries have been used is shown by the following figures :—

District.	Number of cases treated.				Average daily attendance.	Amount realized in fees.
	Horned cattle.	Horses.	Other animals.	Total.		
						Rs. a. p.
Nagpur ...	286	206	257	749	11·62	231 4 6
Raipur ...	665	292	218	1,175	11·11	Nil.

* Government of India's Circular No. 21-113, dated the 1st June 1893.

The number of cases treated at Nagpur was very nearly the same as in the year preceding, but the amount paid as fees more than quadrupled. The Raipur dispensary shows a much larger attendance. Both institutions are stated by the Divisional Commissioners to be gaining in popularity. Arrangements have been made to free the Veterinary Inspectors in charge for occasional tours by entertaining assistants, an ex-regimental farrier at Nagpur and a *salutri* at Raipur. But the expediency of entrusting the dispensaries to inferior skill is very doubtful, and I should be glad to see additional Inspectors entertained. The Superintendent of the Civil Veterinary Department can of course do but little without some subordinate executive assistance, and though it is desirable in these Provinces to proceed very slowly, the entertainment of a certain number of trained Veterinary subordinates is a necessary consequence of his appointment.

29. Glanders broke out in the stables of a native gentleman of Nagpur and at the instance of the Superintendent, Civil Veterinary Department, the Glanders and Farcy Act was extended to the Municipal area. The disease, however, disappeared without the need of compulsory slaughter.

30. Veterinary Captain Short reports that numerous cattle died from disease in the Seoni and Bhandara districts, where apparently rinderpest, anthrax and foot and mouth disease were simultaneously prevalent. The number of deaths reported was however under 1,000. The mortality was apparently much severer than this in the Chhattisgarh country, where in one tract (part of Sambalpur) 20 per cent. of the cattle are reported to have died. Pleuropneumonia seems to have broken out here in addition to rinderpest. But it does not appear that the losses materially interfered with agriculture. Chhattisgarh villages are crowded with cattle of the most miserable description and heavy losses from epidemics are not unusual, and not altogether unfortunate. An outbreak of foot and mouth disease in the Nerbudda Valley and in part of the Nagpur district was of minor importance. The Deputy Commissioner of Bhandara states that some malguzars made use of the prescriptions given in the pamphlet of instructions which was issued broadcast some years ago. This is the first intimation I have received of the instructions finding any appreciation whatever.

There is as yet no progress to *report in the direction of systematic enquiry into the nature of local cattle disease.

VII.—Agricultural and Fiscal Statistics.

31. The agricultural returns required by the Government of India were, as usual, prepared in my office.

The figures are annually gaining in value, save in regard to Government Forest areas, regarding which there is still much uncertainty and confusion.

VIII.—Trade and Trade Statistics.

32. Road traffic was no where registered and the statistics issued were confined to Rail-borne traffic. There is very little long distance road traffic in the Provinces.

IX.—Museums.

33. No additions of importance were made to the collections of the Nagpur Museum during the year. The Museum was visited by 2,26,078 persons, of whom 1,01,592 were men, 79,701 women and 44,785 children. The numbers are smaller than those of the preceding year.

Further additions of Northern Indian art-ware were made to the Raipur Museum collections, which now include a very typical set of specimens. The

* Government of India's Circular No. 27-133, dated the 4th July 1893.

Museum was visited by 1,28,500 persons against 1,37,758 in the previous year. The falling off is ascribed not to any decline in the popularity of the Museum, but to the misconduct of the chowkidar who saved himself trouble by keeping the Museum closed when it should have been open.

No measures were taken to acquire articles under the Treasure Trove Act.

General.

34. Practical action has been taken during the year to encourage the production of Tassar silk on the lines mentioned in last year's report. In the Chanda, Bhandara, Raipur and Sambalpur districts plots of *saj* jungle have been selected for the growth of the Tassar worm, the trees to be pollarded in a definite rotation. The areas selected in Chanda cover 2,024 acres, but in the other districts are very much smaller, and I am in correspondence with the object of enlarging them if possible.

I have the honour to be,

Sir,

Your most obedient Servant,

J. B. FULLER,

Director of Land Records and Agriculture.

REPORT

OF THE

DEPARTMENT OF LAND RECORDS AND AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR

1893-94,

ENDING

30TH SEPTEMBER 1894.

Nagpur:

PRINTED AT THE SECRETARIAT PRESS.

1895.

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No. C-142.

SUBJECT.

Annual Administration Report, Department of Land Records and Agriculture, for the year 1893-94.

FROM

L. S. CAREY, ESQ., I. C. S.,

OFFG. DIRECTOR OF LAND RECORDS AND AGRICULTURE,

Central Provinces,

To

THE CHIEF SECY. TO THE CHIEF COMMISSIONER,

REVENUE DEPARTMENT,

Central Provinces.

Dated Camp, the 22nd March 1895.

SIR,

I have the honour to submit the usual Annual Report on the working of the Department of Land Records and Agriculture during the year ending the 30th September 1894.

I.—ORGANIZATION AND MAINTENANCE OF VILLAGE RECORDS.

2. During the year proposals have been drawn up by the Settlement Officers of Hoshangabad and Chhindwara for the revision of the patwari staff, the expansion of the supervising and inspecting agency of the Land Record staff, which will now be paid from the Patwari Fund, and for the determination of the rates at which patwari cess is to be levied under the new Settlements. The rates fixed for the ryoti cess are 6 pies per rupee of rental in Hoshangabad and 4½ pies in Chhindwara, while the malguzars will pay 5½ and 3½ per cent., respectively, on their jamas. The district of Hoshangabad has an excessive number of patwaris, and under the Chief Commissioner's orders every opportunity will be taken for reducing the number, but this reduction can only be effected gradually, due regard being paid to vested interests. The Settlement Officer has been instructed to submit two halkabandis, giving effect in the one to such amalgamations of circles as may now be feasible, and exhibiting in the other an ideal halkabandi for the guidance of the Deputy Commissioner of the future. As this scheme is worked out, it is hoped that the patwari staff will, in the course of a few years, be reduced to proper proportions, and that on the next revision of Settlement it may be possible to lower the rates which it has now been necessary to render payable by ryots and malguzars.

3. In the Jubbulpore, Wardha and Narsinghpur districts effect has been given to the modifications sanctioned by the Chief Commissioner in the patwari halkabandi.

Very little interference with existing arrangements has been found necessary in Jubbulpore, where the limits of only 16 circles have been altered. A few of the jungle circles, however, proved of unmanageable size, and the total number of patwari circles was therefore raised from 404 to 407, although sanction was originally given to the formation of six new circles. The pay of some patwaris in this district is excessive, and it has been arranged that all stipends in excess of Rs. 150 per annum are to be reduced to this figure on the occurrence of mutations within the family, while if the patwarishiip passes out of the family, the emoluments will be lowered to Rs. 120 unless special reasons exist for permitting the continuance of a higher stipend.

In effecting the revision in Narsinghpur due regard has been paid to the inexpediency of numerous alterations, which involve the loss of the local knowledge acquired by patwaris at the time of survey. It has, however, been

necessary to alter the limits of 40 circles, the result being the abolition of nine and the creation of one new circle, whereby the total number of circles has been reduced from 277 to 269.

Advantage has been taken of the present revision to resume the service land of some patwaris, substituting a cash remuneration where it was found that cultivation interfered too much with their legitimate duties. As the date of the expiry of the present Settlement varied in different portions of the district, it devolved upon the Settlement Officer to introduce an *ad interim* arrangement, which will hold good merely until the new Settlement comes into force throughout the district.

In Wardha the revision has been complicated by the existence of certain *kulkarnis*, or hereditary patwaris whose rights extend over scattered villages, and thus render the formation of compact circles a matter of impossibility if these rights in their present shape are to be maintained. A proposal has recently been submitted to the Secretariat that these *kulkarnis* should be given hereditary right in all of the villages of their new circles, which invariably contain at least one of the old *kulkarni* villages, on condition of their relinquishing such rights in villages now thrown for purposes of administrative convenience into other circles.

The number of patwaris in this district has been raised from 207 to 217, and the staff of Revenue Inspectors has been increased by two, with a view to secure adequate supervision.

4. The policy of reducing the patwari staff of the Nimar district, which has been pursued in previous years, has been steadily kept in view during the year under report, and sanction has been obtained to the abolition of six circles, the patwaris of which resigned, or were dismissed for non-residence, or for carrying on grain dealings within their circles. Similarly, in the Chandarpur Zamindari of the Sambalpur district, two circles which were abnormally small, were absorbed into adjacent circles.

5. In the uplands of Balaghat the patwaris were found unable to cope with the work in the enormous circles entrusted to them under the existing halkabandi, since the framing of which cultivation has considerably increased and new ryotwari villages have been started. Proposals were accordingly submitted for the splitting up of large charges and the creation of nine new circles, and sanction was recently accorded to these provisional arrangements which will hold good until the Settlement of the district is revised, and a new halkabandi more suitable to the present requirements of the district is framed.

6. In the unsurveyed villages of zamindaris, holdings have been roughly measured during the last two or three seasons, and areas calculated on a procedure elaborated by Mr. Fuller. The procedure is termed the base-line and offset system. Last year the results were tested by the Commissioner of Settlements and Agriculture on his tour through the Chanda zamindaris, and found satisfactory. This year the Assistant Settlement Commissioner had an opportunity of checking the records of some villages prepared on this system in the Phuljhar zamindari of the Sambalpur district, and he has submitted a favourable report on the subject. It may then be accepted that this system is a fairly efficient substitute for a regular survey in villages which are in too primitive a stage to be worth mapping.

It is at present intended to make a summary survey of the Chhindwara and Hoshangabad Jagirs on these lines, and during the year some literate Gonds have been trained as patwaris by the Settlement Officer, Chhindwara, with this end in view.

7. The enforcement of the patwari rules in the Chanda zamindaris was undertaken in the previous year, and during the year under report the patwaris have been trained in survey. Traverse plots now being available, survey has been started.

With the extension of the patwari system to the zamindari estates of Chhindwara and Hoshangabad, alluded to in the previous paragraph, there will remain no proprietary areas in the Provinces unprovided with a staff for the maintenance of village records.

8. The conduct of the Land Record staff has been for the most part satisfactory, but the Raipur district forms an exception. The services rendered

by the patwaris and Revenue Inspectors to the district administration of Saugor and Damoh, in the collection of information regarding the agricultural conditions of their circles on the failure of the wheat crop, are acknowledged by the Deputy Commissioners of these districts, and it is gratifying to read that the local knowledge of the Revenue Inspectors proved invaluable, and that their enquiries in Taccavi cases were more efficiently conducted than by Tahsildars, who did not possess the same detailed local knowledge.

In Damoh the few cases of misconduct of patwaris are alleged to be traceable to their connection with land, and the Deputy Commissioner expresses himself in favour of the alteration of the rule under which patwaris are allowed to hold and cultivate land. The Commissioner of the Division is of opinion that the rule in question sufficiently restricts cultivation by patwaris, and that, apart from meting out severe punishment to patwaris detected in the commission of such offences as are described by the Deputy Commissioner, no further action is required. In these views I concur.

The unsatisfactory state of the Raipur staff was described in last year's report, and it is but fair to remark that the present Deputy Commissioner has succeeded to a troublous heritage, owing to the neglect of the Land Record staff by his predecessors. Since the close of the Settlement, up to last year, the staff of patwaris and Inspectors steadily deteriorated, and it is impossible to expect a return to habits of discipline in so short a period as one year. The fact that it was necessary to punish 23 out of the staff of 26 Inspectors in the year under report displays the absence of discipline, and moreover indicates that steps are being taken to bring the staff back to a state of efficiency. The Assistant Settlement Commissioner paid a visit to Raipur during the year, and made a very thorough inspection indeed of the patwaris' papers. His remarks were forwarded to the Deputy Commissioner, who has cordially co-operated with this Department in giving effect to his recommendations. Some new blood has already been infused into the Raipur Inspector staff, which was somewhat denuded in favour of other districts shortly after the close of the Settlement. It is doubtful, however, whether we have gone sufficiently far in this direction, and probably some more new men will have to be introduced so as to raise the standard of work. But at present the existing Inspectors are being granted a last chance of improving the state of affairs, and of showing themselves alive to the numerous warnings which have been disregarded in the past.

In Bilaspur and Sambalpur matters are in a better state, although the number of dismissals of patwaris is larger than desirable.

9. The work of the Superintendents and Assistant Superintendents of Land Records is generally well reported of, and in Sambalpur the work of Mr. Chote Lal has been so esteemed by successive Deputy Commissioners that he has been entrusted with a gradually increasing share of the revenue administration of the district. This matter has been forced on my notice on perusing the diaries of the Superintendent of Land Records, and I have recently had occasion to point out to the Deputy Commissioner that there is great risk of the Superintendent neglecting his legitimate duties if he is given work which in other districts is generally transacted by Extra-Assistant Commissioners and Tahsildars. As the Commissioner of the Division is now alive to the situation, and has expressed himself averse to the Superintendent being "hampered with duties which do not properly belong to the Land Record Department", the matter will doubtless be speedily rectified.

10. In considering the work done by the malguzari patwaris (with whom are classed the zamindari patwaris of the Balaghat and Bhandara districts), it is necessary to group them according as their districts are—

A.—Still under cadastral survey.

B.—With cadastral survey completed, but under assessment.

C.—With cadastral survey completed, but under the ordinary rules.

Class A includes the districts of Mandla, Chanda, Bhandara and Balaghat, in which many of the patwaris were engaged on the survey of their villages.

Class B includes Saugor, Jubbulpore, Narsinghpur, Hoshangabad, Chhindwara, Wardha and Nagpur, in which the bulk of the patwaris were employed on work connected with assessment or announcement of revised revenue.

Class C includes Seoni, Nimar, Raipur, Bilaspur, Sambalpur, Betul and Damoh.

Patwaris' residence.

11. The subject of compelling patwaris to reside within their circles has engaged attention, and even in three districts* of Class A some improvement is perceptible—owing to efforts having been made on the conclusion of the survey of a circle—to enforce the residence of the patwari. In the case of Mandla no figures are returned. There is still a large area for survey in this district, and while these operations are in progress, the patwaris must, perforce, spend much of their time away from their circles.

*Balaghat.
Bhandara.
Chanda.

The patwaris of Class B villages have also to spend a large portion of the year at the Head-quarter's office, compiling statistics and fairing out the records of the Settlement. In spite of this the progress made in enforcing residence in Wardha and Nagpur is very satisfactory. In Hoshangabad and Narsinghpur the figures of this and previous years indicate that there is little to complain of in the matter of non-residence. In Jubbulpore no progress has been made in this respect, and the time has arrived for the Deputy Commissioner to take action in respect of defaulters. In the light of more careful enquiries instituted in the Saugor district, the number of non-resident patwaris proves to be 54 instead of 12, as previously reported. On the conclusion of Settlement operations steady improvement may be looked for, as the patwaris of this district are attached to their circles, and do not view the prospect of dismissal in the same light-hearted way as their newly appointed compeers of Chhattisgarh.

The increase of non-residence in Chhindwara is partly nominal, as some of the men are newly appointed, or on probation, and others are mere substitutes.

As regards districts of Class C where there is no excuse for the non-enforcement of the rules, matters are on a satisfactory footing in Nimar and Bilaspur; but in Sambalpur and Damoh, and especially in Betul, where the percentage of non-resident patwaris is abnormally high, much still remains to be done.

In Raipur no less than 215 patwaris are shown as non-resident. Even after deducting the 74 zamindari patwaris who are engaged on survey work, the percentage of absentees is very high, and close and sustained attention will be required to effect the desired improvement.

The figures returned from the Seoni district show an increased number of non-residents, but of the 26 men so entered only 14 are real defaulters.

Preparation of the annual papers.

12. Turning now to the punctuality with which the annual village papers were filed, districts of Class A and B have to be left altogether out of account, but it should be noted that no effort is spared to ensure the filing of papers for all villages of these districts wherever the patwaris are disengaged. In other words, the patwaris of group A districts are employed on annual papers as soon as the re-survey of their circle is completed, while in districts under assessment, papers are prepared for all tracts, the assessment of which has been completed, or which have not yet come under the operations of the Settlement Officer.

In four* out of the seven districts of Class C very fair punctuality was attained in filing the various papers, but in Nimar and Bilaspur the crop statistics and jamabandis of some villages were submitted a little late. In Sambalpur, but for the delay in filing the jamabandis, the results would be satisfactory, and the Betul record would be as good as any but for the unaccountable delay in filing a large number of *jinswars*. Some allowance can, however, be made for the patwari staff of this district, as this is the first year that they have had to deal with the ordinary duties of Land Record. No figures have yet reached me for the Raipur district, but the Deputy Commissioner claims credit for improvement in respect of punctual submission. The inspections of the Assistant Settlement Commissioner, however, indicate that map correction has been unduly hurried, and in some cases scamped, in view to the submission of the prescribed papers by the dates fixed. The quality of the work has thus suffered, being sacrificed merely to obtain paper results. The Deputy Commissioner is now alive to this tendency, and efforts are being made to bring the Inspectors to a proper sense of their duty.

* Damoh.
Seoni.
Nimar.
Bilaspur.

Apart from this, the question is being considered of the expediency of postponing somewhat the dates fixed for the submission of the crop statistics and jamabandis. Experience gained in Chhattisgarh during the last few years would justify the belief that the quality of the work would be improved if more time could be granted. It remains to be seen whether this step can be taken without any undue sacrifice of administrative requirements.

Check of village papers.

13. In districts still under survey but little inspection of the ordinary Land Record work can be effected by the officers of the District revenue staff. On the other hand, in districts under assessment, the Administration has enjoined the co-operation of these officers with those of the Settlement Department in the work of testing, in order that there may be no abrupt transition on the departure of the Settlement Officer at the close of the Settlement, and that the transfer of control of the Land Record staff may pass into hands not unversed in the duties newly imposed on them. The instructions bore but little fruit in the past, and renewed attention has been invited to them in the Chief Commissioner's Resolution No. 3568 of the 11th August 1894 on the Land Revenue Administration of the Central Provinces, as also in the orders of the Government of India acknowledging receipt of this Resolution. These orders were, however, issued too late to produce any impression on the statistics of the year now under report.

In Saugor and Hoshangabad no papers were checked by the Deputy Commissioners or Assistant Commissioners, while in Chhindwara and Nagpur testing was effected in only four and ten villages, respectively. The failure to inspect patwari papers in Narsinghpur is attributed to the absence of patwaris from their circles, they being engaged in work connected with the announcement of revised jamas. For Jubbulpore no figures are forthcoming, but it is stated that the Deputy Commissioner and Mr. Standen, Assistant Commissioner, tested the Inspectors' check of the village papers in a large number of villages. Wardha is the only district where the amount of checking was at all adequate, and here 209 numbers in 47 villages came under review by the Deputy Commissioner and 2,185 in 162 villages by Tahsildars. In Nagpur, Chhindwara, Jubbulpore and Hoshangabad Tahsildars have done a certain amount of testing, but for Saugor and Narsinghpur the returns are blank.

There remain the districts of Group C. I contrast below for each of the seven districts figures showing the amount of check effected by Deputy Commissioners, Assistant Commissioners and Tahsildars, as well as by the officers of the Land Record staff :—

District.	Percentage of khasra entries checked by Inspectors.	AMOUNT OF TESTING EFFECTED BY					
		Superintendent and Assistant Superintendent of Land Records.		Tahsildars.		Deputy Commissioners and Assistant Commissioners.	
		Number of		Number of		Number of	
		Villages.	Entries.	Villages.	Entries.	Villages.	Entries.
1	2	3	4	5	6	7	8
Seoni	16	375	6,025	40	600	10	100
Damoh	11	682	7,849	51	425	...	...
Nimar	21	44	618	41	633	40	264
Betul	9	159	4,917	21	210	49	403
Raipur	8·5	482	19,844	39	590	32	153
Bilaspur	11	816	37,992	164	5,421	42	1,178
Sambalpur	12	343	15,405	...	431	13	353

The percentage of entries tested by Inspectors in Seoni is the same as in the previous year. In Nimar the number has fallen very considerably,

which is attributed by the Deputy Commissioner to the misbehaviour of one Revenue Inspector since dismissed, and to constant changes in another charge which remained vacant for part of the year. The amount of checking in Damoh seems insufficient, while in Bilaspur and Sambalpur as much has been done as can reasonably be expected in Chhattisgarh where the fields are very small. The amount of inspection effected by the District Superintendents of Land Records and their Assistants is sufficient in all districts except Nimar and Betul, although more might certainly have been done in Seoni. The reason assigned for the unfavourable results in Nimar and Betul is mainly the illness of the staff, but it should be noted that the Superintendent of Nimar has been largely engaged in ryotwari work, while the time of these officials in Betul was much taken up with the alignment of boundaries between malguzari villages and Government forest. The only district in which the Tahsildars' testing was at all adequate was Bilaspur. To these results the Janjgir tahsil contributed but little. From the figures returned by this district and Wardha a good idea can be formed of what Tahsildars can do by way of inspection, when they turn their attention thereto.

As regards the testing of papers by Deputy Commissioners and their Assistants the return is blank for Damoh, but the Commissioner, Jubbulpore, reports that the Deputy Commissioner and his Assistant checked work in 47 villages. In Seoni and Sambalpur little was done, but more practical interest was shown in Nimar, Betul and Bilaspur.

Generally speaking, more care should be taken in keeping a record of the testing effected. In Sambalpur and other reports it is stated that no record is extant of the work accomplished by the officials who have left the district on transfer.

14. The testing of jamabandis by the kanungoes—*vide* Rule 42 of Revenue Book Circular II-17—has received more attention than in the past in those districts where the papers have been filed in the tahsil. The number of errors discovered is excessive in Nimar, Betul, Bilaspur and Jubbulpore, and it would seem expedient that orders should be issued by the Deputy Commissioners of these districts to the kanungoes that the names of patwaris submitting incorrect papers should be reported in view to their punishment. No checking was done by the kanungo of Bilaspur, and in consequence of this and other shortcomings he has been replaced by a more competent official. A clear exposition of the functions of kanungoes has been given in Revenue Book Circular VI-57, and it has been laid down that the primary duty of these officials is that of registering the annual village statistics, and that this duty should take precedence of all others.

15. Last season the newly appointed Assistant Settlement Commissioner toured through the districts of Raipur, Bilaspur, Sambalpur, Balaghat and Seoni, and prepared exhaustive notes on the work of the Land Record staff, which were, in due course, forwarded to the Deputy Commissioners concerned for information and necessary action. The results were, on the whole, satisfactory, but in Raipur the Superintendent of Land Records was proved to be wanting in the requisite power of control and management of so large a staff, and was accordingly transferred to a lighter charge.

Two new Circulars of the Land Record series issued during the year—one with a view to ensure the acquisition of a more intimate local knowledge of their circles by patwaris, the other designed to remove erroneous ideas as to the soil classification recorded at survey and attestation being accepted unquestioned, and to fix responsibility on the patwari for the correction of wrong classing, while limiting his discretion and subjecting his modifications to the check of his circle Inspector.

16. The boundary marks are generally reported to be in a satisfactory condition. In Bhandara and Betul, however, some repairs are necessary. In the former district the requisite action has been taken by the Deputy Commissioner, and in Betul the matter has been left to be dealt with by the recently appointed Settlement Officer.

17. Hitherto the cost of the Land Record supervising establishment has been met from the Patwari Fund only in the cases of districts, the Settlements of which had been completed, *viz.*, the three Chhattisgarh districts and

Damoh. But during the year the scheme for the transfer of the cost of the superior Land Record establishments (Inspectors, &c.,) throughout the Provinces to the Patwari Fund has been introduced with effect from the 1st April 1894. Proposals were also submitted for filling up the vacant posts of Superintendents of Land Records by the appointment of various officials now on deputation in the Settlement Department. Orders on this case are now awaited. The old staff of District Revenue Inspectors has been absorbed into the Land Record staff as Assistant Superintendents, or brought temporarily on the Settlement staff in districts for which no assistants are provided in the sanctioned cadre. The condition of the Patwari Fund has been separately reported on.

II.—Analysis of districts with reference to Protection from Famine.

No village note-books issued this year.

18. There is nothing to remark under this head of the report.

III.—System of Collection of Rent and Revenue in precarious tracts.

19. The information which District Officers have collected in regard to the extent and direction of the hailstorms of the past ten years is not of sufficient value to warrant its submission, but orders have been issued for the submission of reports in future on the occurrence of hailstorms. In compliance with the instructions of the Government of India, the Deputy Commissioner, Nimar, sent in a report on a hailstorm which visited his district in February 1894, together with a skeleton map indicating its course and approximate breadth. These papers were forwarded to the Local Government for transmission to the Meteorological Reporter to the Government of India.

20. In every report of the past few years my predecessor has made allusion to the systematic collection by landlords in some districts of an undue share of the rent after the autumn harvest before the spring crops are gathered, and the system has been shown to lead to the impoverishment of the ryots, as they are driven to borrow from a money-lender in order to meet the inequitable demand.

In his last report Mr. Fuller wrote that the section of the Tenancy Act which contains a provision under which a tenant can recover from his landlord a heavy penalty for rent exacted before date, has proved a dead letter, "and its complete failure to check a practice which is grossly injurious to the "ryot, and in direct opposition to the policy of Government, is a striking indi- "cation of the failure of legislation on the ryots' behalf, which leaves it to "the ryot to take the initiative."

It would therefore appear that if we wait for judicial action, on tenants' initiative, it will be a long time before any improvement can be expected. In my recent march through the Seoni, Chhindwara and Betul districts I found it the rule rather than the exception for the malguzars to realize at the first instalment in excess of the amount to which they were entitled. I cannot but think that a good deal can be done by executive action to remedy this grievance, and I have no doubt that it is a very real grievance, for I found that the tenants had often to borrow to meet the demand. A threat from a Settlement Officer of a severe assessment is often efficacious. It proved to be so in Betul, the malguzar bringing the money to my camp in the evening for restoration to the tenants. It seems to me idle to suppose that the prestige of the Deputy Commissioner is not in most cases sufficient to ensure the refund of the excess, provided that in his capacity of Court of Wards he sets a good example to the malguzars of his district. If the tenants once become aware of their rights, and appreciate that Government is in earnest in supporting them against these exactions, they will pluck up sufficient heart to withstand their oppressors. The record of prescribed instalments in the rent certificates distributed to each tenant at the time of the announcement of the revised assessment in districts under Settlement and the entry of the correct demand for each instalment in the tenant's receipt books, from year to year, should also have an educative effect on the ignorant tenantry. Action will moreover be possible ere long under Section 123 of the Land Revenue Act, as a clause has been inserted in the new Wajib-ul-arz regarding the relations of malguzars and tenants in the matter of rental collection.

IV.—Measures of Protection against Famine.

(1) *Fodder Reserves and Arboriculture.*

21. All efforts to clothe the barren range of trap hills near Nagpur with jungle growth by sowing seed have hitherto resulted in failure, which is mainly owing to the damage done by constant trespass of cattle. The *Gaulis* of Nagpur enjoy the reputation of letting loose their cattle in the civil station at night. They were prosecuted, but got off on the ground that the Telinkheri reserve is outside municipal limits. At Doctor Leather's suggestion it is now proposed to deal with a section of the reserve annually, after enclosing it with a hedge of prickly pear.

22. There is but little to report in regard to the fuel and fodder reserves specially taken up in Chhattisgarh during recent years. In Sambalpur they are stated to be in good condition, and it has now been decided to carve them up into compartments in view to their being worked on rotation.

In the Bilaspur district fuel and fodder reserves have been established in 14 villages, and watchers have been appointed to look after them. The malguzars, however, are reported to adopt a hostile attitude in regard to these plantations, and the people do not yet appreciate the benefits which it is sought to confer on them. Probably allusion is made to those malguzars out of whose villages the waste lands were excised.

The Deputy Commissioner recommends more effective conservation, and the matter is receiving his attention.

The Raipur report is silent on the subject.

23. Roadside arboriculture has been separately reported on in this office letter No. 3956-116, dated the 25th October 1894.

(2) *Extension of Communications.*

24. No addition was made to the railway system of the Provinces. Road construction has added 75 miles of new road-way. No roads have been raised in class.

(3) *Irrigation.*

25. In letter No. C-472, dated the 20th June 1894, the Chief Commissioner sanctioned the proposal made by the Settlement Commissioner that Settlement Officers should be instructed, when dealing with villages containing irrigation tanks, to enquire into the existing custom regarding the annual repair of these tanks, and to record such custom in the village administration paper. This entry in the Wajib-ul-arz will render it possible for the Administration to enforce, in the case of the non-resident malguzars of Chanda and Bhandara who have neglected their villages in the past, the obligation to repair their tanks.

26. There are no Government irrigation works in these Provinces, save a few tanks in some ryotwari villages. The Deputy Commissioner of Chanda has been unable to get the Junona tank repaired by local agency, and the execution of this work has recently been entrusted to the Public Works Department.

The number of certificates granted for land improvement, which is mainly connected with irrigation, has risen from 221 to 427. The greatest activity in this respect has been exhibited in the Seoni, Hoshangabad, Sambalpur and Balaghat districts, where 51, 113, 73 and 38 sanads were respectively distributed. The matter has engaged attention in all districts except Jubbulpore, Nagpur and Wardha. In Chanda 39 applications were rejected, which fact the Deputy Commissioner construes to imply that the orders on the subject are becoming better known, as the people claim sanads with or without adequate reason. In Betul the case is different, for when on tour the Deputy Commissioner inspected certain wells and offered sanads, but the tenants would not apply even though he was camped in their villages. The reason ascribed by the Deputy Commissioner is the suspicious attitude of the people

in regard to the impending settlement. The amount expended in the Hoshangabad district on the improvements, for which certificates were granted, is estimated at Rs. 27,117. More sanads may be expected to be issued in the adjoining district of Narsinghpur this year, as the Deputy Commissioner recently received a list of improvements from the Settlement Officer, and action is being taken thereon. Further enquiries are also in progress in Sambalpur and Seoni.

V.—Agricultural Experiments including Farms.

27. The results obtained on the Nagpur Experimental Farm have been separately reported upon. As in the previous year the wheat and linseed crops suffered badly from rust which detracted much from the value of the experiments. The experience of the year indicated that early sowing enables the plants to resist with some success the insidious attacks of this fungoid disease, and my cold weather tour of this season has afforded numerous proofs of this important fact. Experiments in regard to manures have demonstrated that nitrogenous manure is the one most needed by the plants. The soil seems to possess sufficient phosphatic plant food, for the withdrawal of calcic superphosphate has caused no appreciable diminution in the outturn.

The experiments designed to test the advantage of deep ploughing would seem to show that deep ploughing every third year with simple harrowing in intermediate years is the most profitable form of tillage. Experiments were also made with certain crop mixtures and rotations, and also to ascertain the relative value of box-dung and stall-dung. The comparative merits of various varieties of cotton were tested, but the excessive rainfall reduced the yields, and no very decisive result was obtainable. The discovery that the digging of a trench and the cutting off of the surface roots of trees enables spring crops to be grown in their vicinity is deemed by Doctor Leather to be well worthy of note.

The Agricultural Chemist to the Government of India made a detailed inspection of the Farm during the rains, and recorded an interesting note summarizing the results arrived at in the past.

The net cost of the Farm was Rs. 6,606.

The Agricultural Class attached to the Farm has continued to flourish, and the junior class of the year was an exceptionally good one. The prospects of this institution are not, however, very bright. Students have joined in the past on the promise of employment as Revenue Inspectors. Owing to the completion of the survey of the Provinces the demand for Revenue Inspectors is on the decline, and vacancies are becoming fewer every year. The question of the employment of passed students in the future has formed the subject of a reference to the Secretariat.

28. The experimental crop cuttings effected during the last eight years, *i. e.*, from 1884-85 to 1891-92, were reviewed in a valuable note recorded by Mr. Fuller, and attention was invited to the salient features in Revenue Book Circular No. III-36, which issued on the 9th June 1894.

The number of experimental crop cuttings has declined from 930 to 635 in the year under report. The decrease is mainly due to the elimination of subordinate agency—*vide* Rule IV of Revenue Book Circular No. III-34—under which no one of lower rank than that of Extra-Assistant Commissioner or Assistant Settlement Officer can conduct an experiment unless specially authorized. But it is also noteworthy that less experiments were conducted by Settlement Officers in several districts, as they were engaged at Headquarters in the winding up of their settlements. In the previous year settlement was in full swing in seven districts, and no opportunity was lost of experimenting with a view to discover the relative value of different soils. The district staff have made a normal number of experiments.

VI.—Cattle-breeding and Veterinary Establishments.

29. The provincial section of the first annual report of the Civil Veterinary Department in these Provinces was submitted last July. There is not much to report in connection with horse-breeding, but the usual comparative

statement showing the results obtained from the Government stallions which are maintained at Saugor, Narsinghpur and Damoh, are given below :—

Quarter ending	Number of Mares served.								
	1891-92.			1892-93.			1893-94.		
	Saugor.	Damoh.	Narsinghpur.	Saugor.	Damoh.	Narsinghpur.	Saugor.	Damoh.	Narsinghpur.
December, 31st ...	3	1	2	1	2	5	5	3	4
March, 31st ..	6	4	2	6	3	3	5	2	4
June, 30th ...	6	2	7	7	9	5	7	6	7
September, 30th ...	4	1	3	6	2	1	4	3	2
Total ...	19	8	14	20	16	14	21	14	17

The work done by these stallions has not improved. The Narsinghpur stallion has been sold, as he was reported to be unpopular with the people. Sanction has been given to the purchase of another at a cost not exceeding Rs. 650. The training of the syces at Babugarh, in accordance with a suggestion thrown out by Veterinary-Captain Short, has proved efficacious, and the District Superintendent of Police of Saugor informs me that the trained syce of his district now thoroughly understands stud work. The stallions have been taken on tour by the District Superintendent of Police, but, from what I can gather, the results of this measure have not been very encouraging.

A report was drawn up by the Veterinary Superintendent as to the prospects of horse-breeding in the northern districts of the Provinces, but it was of a meagre nature, and instructions have been issued for the collection of further information. Owing, however, to Veterinary-Captain Short's absence from the Provinces on leave and deputation, and his subsequent illness, no steps have hitherto been taken to give effect to these orders.

As regards mule-breeding, the people of these Provinces are alleged to be averse to it, and nothing has been done in this direction.

30. The Veterinary Dispensaries at Nagpur and Raipur have remained in the charge of District Officers. The orders for their transfer to the direct charge of the Superintendent, Civil Veterinary Department, could not be complied with during the year under report, owing to Veterinary-Captain Short's absence from the Provinces.

The extent to which the dispensaries have been used is shown by the following figures :—

District.	Number of Cases treated.				Average daily attendance.
	Horned cattle.	Horses.	Other animals.	Total.	
Nagpur	305	285	200	790	12·30
Raipur ...	693	284	290	1,267	10·01

The forge which was established in connection with the Nagpur Dispensary has been closed as it did not pay its way. The ex-regimental farrier at Nagpur has not proved a success, and will have to be replaced.

31. There has, to judge from district reports, been the usual amount of cattle disease throughout the Provinces. Owing to the failure of crops in some districts, the condition of the cattle was weakly, and they were apparently more prone than usual to be carried off by disease. The principal sufferers were the emaciated surplus stock, and agricultural operations have not been anywhere curtailed.

The only tract where disease appears to have assumed a serious type was in the Sakoli tahsil of the Bhandara district.

The simple remedies prescribed in the pamphlet which was distributed several years ago are alleged to have been resorted to in some of the larger

villages of the Wardha tahsil; but, generally speaking, the people continue to prefer their own methods of treatment.

The only district in which any attempt at isolation and segregation has been made is Narsinghpur, where, on the outbreak of disease on the Chawarpatha estate under Court of Wards' management, steps were taken which proved efficacious, and the disease was thoroughly arrested. The people of the district were apparently impressed with the success attendant on the measures adopted, and isolation has since been practised by the villagers in a few instances. The Deputy Commissioners of Hoshangabad and Seoni express themselves in favour of the appointment of a veterinary establishment in their districts. The expediency of entertaining a larger number of veterinary subordinates has been admitted in previous reports, but the necessity of proceeding very slowly in these Provinces is equally apparent.

The Deputy Commissioner of Betul has some reflections on the probability of the dissemination of cattle disease by the transport for sale of the hides of animals dying from disease. This is doubtless a fit subject for investigation by the Superintendent, Civil Veterinary Department.

No systematic enquiry into the nature of local cattle disease has yet been undertaken.

VII.—Agricultural and Fiscal Statistics.

32. As in previous years the agricultural returns required by the Government of India were prepared in this office. The instructions issued by the Government of India, in Revenue and Agricultural Department Circular No. 9-28 of 26th February 1894, on the subject of the exhibition of mixed crop returns were given effect to during the year. The re-survey of the malguzari portion of the Provinces is now all but completed with the single exception of Mandla, and the value of the figures relating to this area is annually increasing. The survey of the zamindaris in Chhattisgarh and Chanda and the jagirdaris of Chhindwara and Hoshangabad will probably take a few more years to complete.

VIII.—Trade and Trade Statistics.

33. The quarterly and annual returns of rail-borne traffic continued to be issued and reviewed by this Department.

During past years road traffic was nowhere registered in these Provinces in view of the fact that there was very little long-distance road traffic in the Provinces. But the Government of India recently expressed a desire that a moveable staff might be entertained with a view to ascertaining the traffic on routes which might subsequently prove profitable lines for the construction of feeder railways. The following routes were accordingly selected by the Administration:—

Raipur-Dhamtari, in the Raipur district.
Bilaspur *viâ* Mungeli to Kawarda, in the Bilaspur district.
Gondia to Burha, in the Bhandara and Balaghat districts.

Local candidates for the posts of moharir were selected and sent to Nagpur for training. Forms were prescribed and work was started towards the close of 1893. Monthly returns were received from the Deputy Commissioners and compiled in this office. In the following table the statistics of the traffic are exhibited:—

	Raipur.	Bilaspur.	Balaghat.
	Maunds.	Maunds.	Maunds.
Exports	55,736	30,326	1,54,708
Imports	5,65,730	1,22,521	87,600

The export naturally exceeds the import in the case of Balaghat, as the railway station is at Gondia on the Bengal-Nagpur Railway, while in the other districts the railway station is at the head-quarters of the district.

There was some delay in starting the work in Balaghat and Bilaspur, and the returns are not therefore a complete index of the season's traffic. It is, moreover, proverbially dangerous to generalize from the figures of one season. It has accordingly been decided to continue the registration for another year on the same routes.

IX.—Museums.

34. The main additions to the collections of the Nagpur Museum during the year were specimens of coins presented by the Bombay and Bengal Asiatic Societies, some Lucknow pottery, a collection of eggs of Indian birds, a model of a Hindu temple carved in fine sandstone, nine stone images from the remains of an old Buddhist temple, and some geological specimens from Koradih and Bokhara in the Nagpur district.

The Museum was visited by 2,13,216 persons, of whom 1,02,287 were men, 72,246 women and 38,683 children. The number of visitors fell 13,000 below the figure of the previous year.

The Raipur Museum was visited by 2,38,938 persons against 1,28,500 in the previous year. The increased popularity of this institution is ascribed to the influx of people to head-quarters on the occasion of the Durbar held by the Chief Commissioner.

General.

35. Pictorial lesson sheets describing the most prominent agricultural insect pests in India were translated into three vernacular languages, and supplied to schools through the Inspector-General of Education.

36. The operations in connection with the rearing of the tassar crop have not met with very much success during the year. The Forest Divisional Officer of Chanda, Mr. Lowrie, has interested himself considerably in the matter, but his first crop of worms died from disease, and out of the next crop of 1,000 worms only 200 cocoons were gathered. A further experiment is to be made this year.

In Balaghat 1,904 acres have been selected for tassar *baris*, partly in the lowlands of the Lanji and Sonawani ranges and partly in the uplands, but the Dhimars hold off, alleging the position of the *baris* to be unsuitable owing to the damp and mist. The real reason for their action, in the opinion of the Conservator, is to be found in the fact that they have found the industry unprofitable, and have no desire to revive it.

In Bhandara, where the Forest Divisional Officer has fostered the industry, there is reported to have been a very fair crop of cocoons. He writes :— "The Dhimars were unable to confine themselves to only 5 acres of the 20-acres plot, and in two cases extended their operations over nearly half the entire plot. There is no doubt that when the season comes round again the same men will resume operations." A parcel of 20,000 cocoons obtained from the Bilaspur district was forwarded to Mr. Otto Anz, of Hamburgh, for experiment in connection with his intention to start a tassar reeling industry in India. Unfortunately some of these cocoons were injured in transit, owing to inexperienced treatment prior to packing. The balance, however, sufficed for the purpose, and a report from that gentleman is awaited.

37. The office of Director was held by Mr. J. B. Fuller, I. C. S., C. I. E., up to the 21st July 1894, when he was relieved by Mr. R. H. Craddock, I. C. S., who held charge up to the close of the year.

I have the honour to be,

Sir,

Your most obedient Servant,

L. S. CAREY,

Offg. Director of Land Records and Agriculture,

Central Provinces.

Secretariat Press, Nagpur :—6-4-95—700.

REPORT

OF THE

DEPARTMENT OF LAND RECORDS AND AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR

1894-95.

ENDING

30TH SEPTEMBER 1895.

Nagpur:

PRINTED AT THE SECRETARIAT PRESS.

1896.

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No. $\frac{675}{3}$.

FROM

L. S. CAREY, ESQ., I. C. S.,

DIRECTOR OF LAND RECORDS AND AGRICULTURE,

Central Provinces,

To

THE SECOND SECRETARY TO THE CHIEF COMMISSIONER,

REVENUE DEPARTMENT,

Central Provinces.

SUBJECT.
Annual Administration Report, Department of Land Records and Agriculture, 1894-95.

Dated Nagpur, the 2nd March 1896.

SIR,

I have the honour to submit the usual Annual Report on the working of the Department of Land Records and Agriculture during the year ending the 30th September 1895.

I.—ORGANIZATION AND MAINTENANCE OF VILLAGE RECORDS.

2. A revised halkabandi for the Hoshangabad and Seoni tahsils has been submitted by the Settlement Officer, Hoshangabad, the new assessments of these areas having been previously announced. Similar proposals will be framed for the Sohagpur and Harda tahsils when the assessment work is complete. The local dues of patwaris being based on the revised rental, no action in this direction is feasible until after announcement. The Hoshangabad district is altogether overmanned and the patwaris receive a very high rate of remuneration, and are in consequence a distinct incubus on the agricultural resources of the district. It has been estimated that the emoluments of the existing staff amount to 17 per cent. of the land revenue of the district. This is a very heavy tax compared with which no advantage at all commensurate accrues. The fields in Hoshangabad are large, and much of the country is of open type and homogeneous. It is then possible for a patwari to work a much larger circle than is the case in rice tracts such as Chhattisgarh. The aims of the Administration, as stated in the orders on the Settlement Officer's preliminary report touching the patwari arrangements of his district, were to reduce the number of patwari circles from 435 to 375 throughout the district, and to lower the average rate of remuneration from Rs. 165 to Rs. 140 per head. But it was recognised that such reductions could only be effected gradually, due regard being paid to vested interests. Every opportunity has, however, been taken during the past few years of abolishing and amalgamating circles, and new patwaris have been sparingly appointed to the vacancies which have occurred from time to time. The Settlement Officer has in this way achieved greater success than was anticipated, and the staff in these two tahsils has been cut down from 164 to 124, or by 40 men. No doubt a considerable loss of local knowledge has resulted from the wholesale alterations in the limits of circles which have been effected, and the course pursued is somewhat at variance with the often declared policy of the Administration. The circumstances of the district, however, differ greatly from

those of any other hitherto dealt with, and the case did not admit of half measures. The proposals which have received the sanction of the Administration practically amount to the framing of a new halkabandi. At the same time the average rate of remuneration has been cut down from Rs. 185 to Rs. 138, but the latter figure is temporarily raised to Rs. 150 by the grant of personal allowances to present incumbents. Care has been taken to leave to the patwari the village in which he has previously built his house, but a few transfers have been indispensable. In a few circles, where the local remuneration is excessive, it has been arranged that the lambardars of some particular village or villages should collect and pay the dues accruing from that village into the treasury instead of to the patwari. In this way a more reasonable remuneration has been fixed for each of the new circles. The *ad-interim* arrangements proposed by the Settlement Officer, which are ordinarily inseparable from the introduction of a new halkabandi, involve an expenditure of Rs. 2,225 once for all from the consolidated Provincial Patwari Fund. This will not be a recurring charge.

The limit to which the staff is susceptible of reduction has not yet been reached, and the Deputy Commissioner has accordingly been instructed to prepare a model halkabandi on lines recommended by the Settlement Officer, to be worked up to as opportunity permits.

3. Since the close of the year the Assistant Settlement Officer, Chhindwara, has submitted proposals for the revision of the patwari halkabandi of his district and for the remuneration of the staff; but the changes suggested appear to me more numerous than are necessary; and although they may conduce to uniformity in the size of circles and in the amount of work to be discharged by each member of the staff, these advantages would, to my mind, afford but slight compensation for a serious loss of local knowledge. It has been generally accepted in the past that, provided a patwari can with ease discharge the work of his circle, big though it be, it is preferable to leave the circle undisturbed than to yield to a disposition to assimilate the conditions of circles. Actuated by these considerations, I have returned the proposals to Mr. Montgomerie to be recast.

In Nagpur the announcement of the Katol tahsil was not finished until December last, but I hope that the halkabandi proposals will shortly reach me for submission to the Secretariat.

4. Allusion is made in last year's report to the existence of *kulkarnis* or hereditary patwaris in scattered villages in the Wardha district, and it was there stated how it was proposed to grant them hereditary right in the new circles as framed and assigned to them on revision, provided they relinquished such rights in villages thrown for purposes of administrative convenience into other circles. This solution of a somewhat difficult question was accepted by the Chief Commissioner, and during the year under report the new arrangements were announced to the eleven patwaris concerned. Four have accepted the new conditions without demur, while two have pleaded for slight modifications of detail in the proposed halkabandi. Two more have asked for the appointment of their relatives as ordinary patwaris to circles including old *kulkarni* villages, and the Deputy Commissioner has been able to humour them to this extent. Two have been dismissed for recalcitrancy, and the case of the remaining one is pending. The Deputy Commissioner promises the early submission of a final report on the case.

5. Sanction of the Chief Commissioner was obtained during the year to the abolition of six circles in the Khandwa tahsil of the Nimar district which, like the neighbouring district of Hoshangabad, has an excessive number of patwaris. "By these changes" writes the Deputy Commissioner "there has been a considerable accession of income to the Patwari Fund, besides a wholesome riddance of some very troublesome patwaris."

In Raipur and Bilaspur the patwari cess levied form ryots is payable through the lambardar into the treasury, and not, as in most other districts, direct to the patwari. After allowing due drawbacks to the lambardars for cost of collection, the sum payable by each was fixed at the recent revision of assessment for a period of five years, which is now coming to a close. The Deputy Commissioners are now engaged in framing a revised demand for the next quinquennial period.

In Mandla the ryoti patwari cess payable under the kistbandi of 1889 should also have been recalculated, but, with the sanction of the Chief Commissioner, this revision has been postponed until a rent-roll can be prepared by the patwaris who are at present engaged on survey work.

Secretariat letter No. 5276, dated the 29th November 1894.

In the regularly settled ryotwari villages of this district, it has been decided that patwari cess at 6 per cent. should be levied with effect from the 1st July 1894.

Secretariat letter No. C-913, dated the 31st October 1894.

During the year the *merhkuro* leviable by the patwaris of patch cultivation villages in Betul has been discontinued, and cash dues have been substituted, which are leviable at the rate of one anna in the rupee of rental. This measure was designed to lessen the burthen of taxation on the poorer tenants, who under the previous system of payments in kind rendered a poll tax irrespective of the amount of their rent.

6. As lands are excised from the forest and settled in ryotwari fashion, such areas have to be brought within the scope of Land Record administration. Sometimes when the blocks are small and scattered about a district, the best plan that presents itself is to absorb the areas into existing circles. But when we have solid blocks of ryotwari villages, a preferable plan is to appoint separate patwaris for the control of the same. This is the arrangement which has been adopted in the Ghorpeth Group in Chanda, for which tract one patwari has been sanctioned during the year, but the opportunity has also been taken of adjusting the limits of some adjoining circles comprising malguzari villages. For the proper working of the ryotwari system, which involves, at the outset, the preparation of annual kistbandis by the patwari, and sustained attention to matters of detail on his part, the size of the circles has to be kept lower than would otherwise be the case.

In Mandla where the circles are abnormally extensive, and often separated by high ranges of hills, where moreover Government has a large ryotwari estate, this matter is now forcing itself on the notice of the Deputy Commissioner. For the last few years, *i. e.*, during the currency of survey operations, special establishments have been entertained for work in connection with ryotwari allotment, kistbandi preparation, &c. But with the close of the survey, these temporary establishments will come under reduction. The Deputy Commissioner proposes to make an early representation touching his requirements in the matter of patwaris and Revenue Inspectors.

The question was settled provisionally for the Behir tahsil in Balaghat two years ago, and will be taken up again by the Settlement Officer in due course when his operations reach this tract.

In Seoni, Betul and Bhandara, where there are not a few circles of unmanageable size in the malguzari area, the opportunity will be taken of the revision of assessment to remodel the arrangements and bring the circles within the capacity of an ordinarily industrious patwari. Meanwhile some assistant patwaris are entertained so as to avoid delay in assessment.

7. The survey of the Chanda zamindaris was started during the year under report. Owing to the difficulties attendant on effective supervision of patwaris scattered over these extensive domains, it has been decided to depart from the usual system under which each patwari surveys his own circle. There may be some loss of power occasioned thereby, but the number of patwaris now sanctioned for these areas is absurdly small, and it is not likely they would acquire much local knowledge before the necessity would arise at the now impending revision of settlement of sub-dividing their unmanageable circles. It is intended to commence the settlement of Chanda in the autumn of 1896. In this view it is deemed best to push through the survey with the aid of *madadgars* as rapidly as possible. It is thus hoped to introduce a workable Land Record scheme into these wild tracts earlier than would otherwise be the case.

8. Proposals for bringing the Jagirs of Chhindwara under Land Record administration have been framed during the year by the Settlement Officer, and similar action is being taken by the Settlement Department in Hoshangabad for the three jagirs situate in that district.

For Chhindwara it is proposed to have a staff of 18 men. Of these 10 patwaris were partially trained in the year under report. Three who have been working for some years in Pagara will in all probability be taken over from the Court of Wards, as soon as sanction is accorded to the scheme. The remainder are now under tuition.

The Pagara Jagir was roughly surveyed without a traverse some few years ago by the Court of Wards. It is now proposed to have these villages traversed by the Imperial Survey Department, and a cadastral survey should shortly be undertaken of such villages as are sufficiently advanced. It was hitherto supposed that in the remaining jagirs a survey on the method known as the base line and offset system would suffice. But on my recent tour through Harrai, I passed through several very well settled black soil villages, which should in my estimation be regularly surveyed within the next few years. I am moreover informed that there are a still larger number of really good and solidly established villages in the Sonpur Jagir. The matter is one which merits further consideration. Meanwhile the Superintendent of Land Records and the Revenue Inspector in charge will be acquiring local knowledge of these hitherto unexplored regions, and the patwaris will be perfecting themselves in the art of survey.

During the year under report operations were confined to the three jagirs of Sonpur, Gorpani and Harrai, and a cultivated area of 73,336 acres or 115 square miles comprised in 82 villages were measured. A rough hand sketch of each village has been made showing the different "*hars*" or blocks into which the village is cut up, also the approximate position of each field, which is designated on the sketch and in the Khasra by a special name. The area of each field is roughly calculated by chaining the length and taking an average breadth measurement for each five chains of length. A *khasra masahat* was written up on the spot and in office these khasras were copied on to the charsala form and compilations prepared. On my recent inspection of the work in the Harrai Jagir, I found it open to the following criticisms:—

(i) The sketch maps were badly prepared and quite unintelligible. Considering that the Revenue Inspector in charge had worked as a draughtsman, this was the more inexcusable. He has been ordered to study the leading natural features of the village, as exhibited in the 1 mile=1 inch map which has now been supplied to him, and better results may, I think, be expected in future.

(ii) No patwari circles had been framed, and there was an entire absence of that local knowledge of the country which is so absolutely essential where there is no good map for guidance. I have arranged with the Deputy Commissioner that the patwaris should each work in circles provisionally assigned to them, pending the receipt of orders on the revision of assessment of these Jagirs.

(iii) There is a marvellous absence of originality in the nomenclature of fields which forms so important a feature of the scheme. Every field, with few exceptions, is called after one of four or five species of trees which are common in the locality, and it is often decidedly difficult to ascertain to which of several "*mohwawala*" or "*harrawala*" or "*jamunwala*" fields the entries in the khasra relate. There is apparently no remedy for this but extensive topographical knowledge on the part of the patwari. It occurred to me that the patwari might invent names for the fields, but it was alleged, and doubtless with reason, that the people would never remember these names, and would go on calling them after the fashion of their forefathers.

(iv) In Harrai Khas there were some enormous *barras*, each covering 70 or 80 acres or even more, the limits of which I was unable to discover within the short time at my disposal. The Jagirdar agreed to demarcate these, and I ordered that they should be regularly measured. The existence of these large fields held by the proprietors and their hangers-on is, I understand, a distinctive feature of Harrai Khas, which is the old head-quarters of the whole tract, and such big fields are rarely if ever found elsewhere.

The "*khâsra masahat*" system is the basis upon which we propose to frame our Land Records in the wilder villages of the Chhattisgarh and Chanda zamindaris, which are not yet sufficiently settled to justify regular survey. It is therefore desirable that no effort should be spared to make the system as effective a substitute as possible.

9. In compliance with the wishes of the Administration, as expressed in paragraph 25 of the Chief Commissioner's Resolution No. 2312, dated the 16th May 1895, the Commissioners of Division and most Deputy Commissioners have dwelt at greater length this year than in the past, on the work and conduct of the Land Record staff, and the information respecting their relations to the people amongst whom they work is fairly full. On the whole there is a consensus of opinion that the patwaris have behaved themselves well. There are doubtless exceptions to this as to every other rule, and there are black sheep in the Land Record as in every other fold. The Deputy Commissioner of Jubbulpore expresses himself "glad to be able to endorse the remarks made last year by the Deputy Commissioners, both of Saugor and Damoh, as to the very useful service done by the Land Record staff during the year both in the course of their ordinary duties and of the special enquiries instituted in connection with the partial suspension of the June instalment of land revenue." In Narsinghpur the patwaris as a body are said to have done well, although there are still some who, in the Deputy Commissioner's estimation, could with advantage be eliminated from the staff.

The Deputy Commissioner of Wardha characterizes his patwaris as "in general fairly well educated and up to the average intelligence. With the exception of a few, all are popular and well behaved." They are alleged however to be wanting in local knowledge, and not well up in the important provisions of the Tenancy Act and Patwari Rules. What is required in this district is sustained and painstaking instruction on the part of the controlling staff.

The Deputy Commissioner of Bilaspur notices a general improvement in the work of patwaris, and Mr. Chapman speaks of the Sambalpur staff "as a most useful and hard-working lot." The districts in which the condition of the staff is least satisfactory within my personal knowledge, are Bhandara, Betul and Balaghat, and judging from the reports received, the state of discipline leaves much to be desired. But in all these districts the staff is now under the control of the Settlement Officer, and is being very carefully drilled, and improvement may be looked for. In Seoni the standard of intelligence is decidedly low, but the patwaris give less trouble than in Betul and Bhandara. I have marched during the two last seasons through the three plateau districts of Seoni, Chhindwara and Betul and have been surprised at the comparative efficiency of the Chhindwara men as contrasted with the low standard attained in Betul and Seoni. It is questionable whether this somewhat remarkable feature can be attributed altogether to the disciplinary training acquired during the period of settlement, for the patwaris in Chhindwara appear to be recruited from a higher class than in the other districts. I was similarly struck in the rains with the difference of demeanour in the Raipur and Bilaspur patwaris. I had control of the Bilaspur staff in 1886-87 and since then a considerable improvement has taken place. The construction of the Bilaspur-Katni line appears to have brought a good class of up-country men into the district. In Raipur we continue to recruit from the lower ranks "*fante de mieux.*" The late Deputy Commissioner, Mr. Fox-Strangways, endeavoured to improve matters by refusing to entertain the town lads of the notorious Baijnathpara, and devoted attention to the recruitment of the sons of malguzars and respectable tenants, the product of village schools. It is too early to judge of the fruits of his labours, but it is observed with regret that the punishment roll in Raipur is still much heavier than in any other district, even when due allowance is made for the magnitude of the staff. The Commissioner of the Division comments unfavourably on the summary character of the Deputy Commissioner's procedure in dealing with the patwari staff. I question however whether he has made sufficient allowance for the difficulties which beset Mr. Fox-Strangways.

I have quite recently marched through the Drug tahsil with Mr. J. R. Scott, Assistant Settlement Officer, who had lately joined the district from

Mandla, and we were both struck with the efficiency of the patwaris, the correctness of their maps and papers, and the accuracy with which tenants' receipt-books are written up. It should be observed that the pick of the Raipur staff were posted to Drug in 1888-89, when the west of the district alone remained for survey, and that it is conceivable that the work is inferior in the Raipur and Simga Tahsils. Still, allowing for this, it would appear that Mr. Fox-Strangways aided by his Superintendent, Mr. Khando Malhar, has been able to effect a very marked improvement in the staff during the two or three years he has held charge of the district.

10. The work of the Inspectors has been generally well reported of. The Deputy Commissioner, Nimar, bears pleasing testimony to the sympathetic relations existing between his Revenue Inspectors and the ryots of Singhaji and Samardeo. In Raipur the measures taken in the previous year have borne good fruit and the introduction of new blood into the staff has raised the standard of work. The Deputy Commissioner of Narsinghpur characterizes the work of his Revenue Inspectors as excellent, and it is undoubted that he has one of the best if not the best staff in the Provinces. Some Saugor Revenue Inspectors, local Kaisths, are said to fail owing to the closeness of their relations with the patwaris and consequent aversion to incur the odium of reporting them. I have transferred one or two of these men to other districts, and it will probably be necessary on the close of the settlement to transplant a few more. A Revenue Inspector rarely does well in a district where he has served as a patwari. Remove him, and immediate improvement often results. Four Inspectors belonging to the Jubbulpore, Chanda, Hoshangabad and Bilaspur districts, who failed to give satisfaction in various respects, have been transferred to other districts since the close of the year. Their conduct will be watched in view to their removal from the staff if they fail to do their duty in future. It has moreover been necessary to dismiss several Inspectors for gross misconduct or serious neglect of duty after fair warning. The most flagrant case was that of Habib Hussain, Revenue Inspector of Balaghat, who purchased grain at half price in the mofussil and had it conveyed by ryots to Burha without payment. This man was dismissed by the orders of the Chief Commissioner.

The question of the residence of Revenue Inspectors in the head-quarters fixed for their abode has engaged my attention during the year, and I regret to say that in many districts the matter is not on a proper footing. It has been held in the past that no Revenue Inspector should be permitted, except for special reasons to reside at the head-quarters of the tahsil or district, but this rule has been contravened in almost every district. When in Damoh last year, I found that the Inspectors, with hardly an exception, lived at the head-quarters of the tahsil in spite of the fact that villages had been fixed for their residence some years previously. We cannot expect to enforce patwaris' residence with any measure of success, if our Inspectors are so frequently absent from their circles, and permanently reside outside. In Raipur, I find that the Inspectors are not living in the villages selected as head-quarters by the Settlement Officer. In Wardha, the Deputy Commissioner has permitted the Revenue Inspectors to reside elsewhere than in the villages fixed under the orders of the Administration. When on tour in the rains at Murwara, I discovered that an Inspector was resident there with the Tahsildar's knowledge and consent, in spite of the fact that his circle was miles away. I have been in correspondence with the Deputy Commissioners of these various districts on the subject, which is a decidedly important one, and I am now having a small hand-book compiled which will show for each district the name of each circle, the number of patwaris' circles comprised in it, the name of the Revenue Inspector in charge, his pay and allowances, and the head-quarters fixed for residence. I trust that this list will prove useful to District Officers, and will prevent any misconception on this head in future.

11. The Superintendents and Assistant Superintendents of Land Records have, as a body, worked well, and earned the acknowledgments of the officers to whom they were subordinate. The only case of misbehaviour which came to light during the year was in Balaghat, where the acting Superintendent of Land Records, Mr. Lalta Pershad, was proved to have abused his position of

trust by negotiating loans from the patwaris, his subordinates, for private purposes. He has since been dismissed under the orders of the Chief Commissioner. Generally speaking, the discipline of the whole Land Record Staff has been far more lax in Balaghat than in any other district.

The proper position of the Superintendent and the Tahsildar in the Land Record economy is only gradually coming to be correc ly appreciated and understood in most districts. A question arose during the year in Jubbulpore as to the respective functions of the Superintendent of Land Records and the Tahsildars, and it was decided by the Chief Commissioner that cases touching Land Record Administration, such as the enforcement of patwaris' residence, should be dealt with by Tahsildars whose personal responsibility for the working of the Land Record Administration, it was desirable to enforce to the utmost. Such cases would, however, reach the Deputy Commissioner through the Superintendent, his adviser in land record matters. During my tours I found a tendency in several districts for the Superintendent to usurp the functions of the Tahsildars in these matters. Such was the case in Bilaspur where the attention of the Deputy Commissioner was invited to the subject.

Allusion was made in last year's report to the action of the Deputy Commissioner, Sambalpur, in employing his Superintendent of Land Records on work other than that specified in Revenue Book Circular No. II—17. The ill effects of this procedure are manifest in the Settlement and Land Record Returns of the year, and in the absence of proper and continuous check by the superior staff, work must necessarily deteriorate. There are other districts in which the same tendency has begun to manifest itself. The Assistant Superintendent of Land Records, Wardha, was detained for a considerable time at the district head-quarters in February 1895, for the instruction of patwaris in connection with partition cases. The Superintendent of Land Records of this district has, for similar reasons, done less touring than was expected of him. In Nimar, the Assistant Superintendent is likewise being employed on calculating awards under the Land Acquisition Act at a time of the year when he should be actively touring for the inspection of the maps and khasras. Moreover not a few diaries have revealed the fact that patwaris have been kept away from their duties for spells of ten days or more by Extra-Assistant Commissioners and other officers engaged in crop cutting experiments. It is in a sense intelligible that a Deputy Commissioner should desire to employ the best agency available, and should prefer to entrust an important case of land acquisition to an Assistant Superintendent in preference to an irresponsible amin. On the other hand, it is idle to suppose that land record work can be kept up to the desired standard of efficiency, if the supervising staff are called off from their legitimate duties for special work at the busiest time of the year.

12. In considering the work done by the malguzari patwaris, with which are classed the zamindari patwaris of the Balaghat and Bhandara districts, it is necessary to group them according as their districts are :—

(A) still under cadastral survey;

(B) with cadastral survey completed but under assessment;

(C) with cadastral survey completed and under the ordinary rules.

Class A. includes the district of Mandla only.

Class B. includes Saugor, Seoni, Hoshangabad, Betul, Chhindwara, Nagpur and Bhandara in which the bulk of the patwaris were employed on work connected with assessment or announcement of revised revenue.

Class C. includes Damoh, Jubbulpore, Narsinghpur, Nimar, Wardha, Chanda, Balaghat, Raipur, Bilaspur and Sambalpur.

13. In the important matter of compelling patwaris to reside within their circles, not much can be expected in districts of Class A, as the patwaris have to spend the greater part of the year away from their homes either in the survey of their villages or in the Settlement Office. Out of the 114 patwaris in Mandla only 30 have hitherto built themselves houses, which indicates that non-residence has hitherto been very common. But the survey of 59 circles has been recently completed, and continuous pressure will now be brought to bear on these men to compel residence. In the districts of Class B

it is impossible to give full effect to the rules, and residence can be enforced only in those tracts, the re-assessment of which has been completed. There is, however, a perceptible improvement in most districts, and it is clear from the reports that residence is each year more strictly construed. In Bhandara, for instance, out of 32 returned as non-resident, 20 are newly appointed men, and 5 are merely temporary hands acting for Additional Revenue Inspectors. The contumacious were only 7 in number. The matter requires further attention in Saugor and Chhindwara where, having regard to the progress of settlement operations, there is no reason why all the patwaris should not now be properly resident within their circles.

In districts of Class C there is no excuse for the non-enforcement of the rules. Out of the 14 non-resident patwaris in Damoh, 4 are newly appointed, and the Deputy Commissioner writes that dates have been prescribed within which the remainder should become resident. More vigorous action is apparently requisite here, as some years have elapsed since the close of settlement operations. In Jubbulpore, the Deputy Commissioner has conducted a crusade against his absentees, but without reducing the percentage of non-residence. He is alleged to have been somewhat summary in ordering dismissals, and the Commissioner of the Division has restored some men on appeal. The revised arrangements of circles in Wardha have somewhat disturbed the halkabandi, and of the non-resident men, 3 are new and 2 temporary. In these districts, as also in Chanda and Sambalpur, sustained pressure will have to be exerted by the Tahsildars through the Revenue Inspectors before any improvement can be expected. There has been some progress during the year in Raipur, but even deducting the zamindari patwaris who are engaged on survey work, the percentage of non-resident patwaris is higher than in most other districts. Last year there were 19 men non-resident without permission in Balaghat, but the Deputy Commissioner reports that all his men are now duly resident, which is decidedly satisfactory.

14. The punctuality with which the annual village papers were filed will be gathered from a perusal of Statement J. It is not understood why the return is blank for Seoni, for in districts of Class B the patwaris of tracts not under attestation are expected to file papers, and last year annual papers were written up for the Lakhnadon tahsil. An enquiry will be made from the Settlement Officer on the subject. Strict punctuality cannot be expected in districts of Class B, and the results attained are very satisfactory.

Of the 10 districts in Class C, Nimar and Narsinghpur show best, and but for the late submission of jamabandis, Sambalpur would share the distinction. In this district, however, the patwaris' time has been much taken up in mastering the Hindi language, and allowance has to be made for this fact. Bilaspur and Balaghat have also done well in this respect. The delay in submitting jinswars in Damoh is attributed to late sowings, but this excuse is untenable, as the circumstances were the same in Saugor where commendable punctuality was observed. The failure in Wardha, where patwaris have to manipulate singularly few numbers, is not creditable to the Superintendent of Land Records. The delay in Raipur was due to the zamindari patwaris being engaged on survey, and in Chanda there was some difficulty in three of the large Sironcha Circles, where ryotwari work had taken up part of the patwari's time. Viewed as a whole the results of the year are decidedly creditable. During the year the question of postponing the date of submission of jinswars from the 1st March to the 1st April has been considered. There was reason to suppose that the field work was being scamped and map correction was suffering, in consequence of the early date fixed for the filing of these papers. District Officers were accordingly consulted, and as they were practically unanimous as to the expediency of a change, the Chief Commissioner's sanction was obtained to the postponement of the date.

It occurred to my predecessor that it would be a great advantage if the preparation of the jinswars and milan khasras could proceed *pari passu* with the writing of the khasra, the patwaris devoting an hour or so at the close of each day to the preparation of his compilations. At the same time it was desired that a check should be instituted between the figures of the jinswar and

milan khasra for each page of the khasra. A form has accordingly been drawn up and the system is being tested in 5 districts. If it be deemed an improvement on existing procedure, sanction will be obtained to its introduction throughout the Provinces.

15. In considering the extent to which village papers were tested, districts of Class A may again be disregarded. In districts of Class B under assessment, the district revenue staff have been enjoined in recent years to co-operate with the Settlement Department in the work of testing. The effect of these instructions is for the first time perceptible in the returns of the year. In all these districts some checking has been done by Deputy Commissioners, their Assistants and Tahsildars. The amount is often inadequate, and can only be accepted as an earnest of further attention in the future. For instance, the Deputy Commissioner of Chhindwara and his Assistants have checked but 26 numbers in 3 villages, while the 4 Tahsildars of Saugor have between them contrived to pass in review only 322 numbers in 30 villages.

I contrast below for each of the ten districts in Class C, figures showing the amount of check effected by Inspectors and superior officers :—

District.	Percentage of khasra entries checked by Inspectors.	AMOUNT OF TESTING EFFECTED BY					
		Superintendent and Assistant Superintendent of Land Records.		Tahsildars.		Deputy Commissioners and Assistant Commissioners.	
		Number of		*Number of*		*Number of*	
		Villages.	Entries.	Villages.	Entries.	Villages.	Entries.
Damoh ...	11	913	22,323	58	1,379	19	500
Jubbulpore ...	11	486	11,064	60	500	12	400
Narsinghpur ...	14	545	9,079	88	1,467	80	718
Nimar ...	29	280	4,096	45	553	107	1,312
Wardha ...	22	541	7,717	241	3,209	72	959
Chanda ...	17	283	10,184	44	523	79	939
Raipur ...	9	703	18,205	27	1,082	56	934
Bilaspur ...	11	889	39,177	237	5,888	69	1,601
Sambalpur ...	9	317	7,772	10	1,122	12	115
Balaghat ...	10	331	10,217	93	1,641	216	5,433

Among Deputy Commissioners the largest amount of check has been effected by Mr. Chitnavis, who personally tested no less than 5,153 numbers in 202 villages, thus displaying an unprecedented amount of activity. In Nimar good work has been done by Mr. Robertson, and in Narsinghpur, Wardha and Chanda a fair amount of testing has been accomplished. In Damoh, I believe, much more testing was effected by Mr. Cooke than has been entered in the return. The figures for Jubbulpore and Sambalpur are inadequate, but in the former district it is explained that an Assistant Commissioner failed to carry out instructions, and in the latter Mr. Russell, Assistant Commissioner, tested some survey and record work in the Borasambar and Phuljhar zamindaris. Speaking generally, the results are much better than in past years, but I concur with the Commissioner, Chhattisgarh Division, in holding that a larger amount of inspection is required.

An unsatisfactory feature is the small amount of testing done in most districts by Tahsildars, and the character of their inspections is, I fear, often

perfunctory and superficial, as remarked by the Deputy Commissioner, Bilaspur. It is not clear why if the Tahsildars of Wardha and Bilaspur can respectively check work in 241 and 237 villages, their compeers in Sambalpur and Raipur can only visit 10 and 27 villages. The fact is that the personal responsibility of Tahsildars is far from being sufficiently enforced, and this is an important matter which requires much more attention than it has hitherto received. In my tour during the past two years I have been struck with the ignorance of our Tahsildars as a body of what is required of them in this respect, and with the signal want of interest displayed in all matters touching Land Record Administration. There are doubtless bright exceptions to this rule, but I have come across only a few. The Tahsildars of Jubbulpore and Sihora did little or no check, the Tahsildar of Chanda and his Naib similarly neglected this part of their duties, and the Tahsildar of Brahmapuri contented himself with testing 6 khasra numbers.

The amount of checking done by Superintendents of Land Records was generally sufficient. In Nimar the time of the Superintendent was to a certain extent taken up with the survey of ryotwari villages, but for which his outturn would have been larger. The Superintendent of Land Records, Sambalpur, did an inadequate amount of work in this line for reasons given in paragraph 11 above.

The percentage of khasra entries tested by Revenue Inspectors was on the whole satisfactory, though I should have expected more to have been done in Damoh and Jubbulpore. In the Chattisgarh districts, khasra entries are so numerous that the percentage of check must always be lower here than elsewhere.

16. The testing of jamabandis by kanungos, *vide* Rule 42 of Revenue Book Circular II-17, has been more systematicaly carried out in districts of Class C than hitherto. But the amount of check was absurdly inadequate in Chanda where, as already stated, land record work has been much neglected by Tahsildars. The percentage of errors discovered is very high in Nimar, Wardha and Bilaspur, and some action is apparently necessary on the part of the Deputy Commissioners on the lines indicated in my last year's report.

Such inspections as my Assistant and I have been able to effect of kanungo's offices go to show that their Statistical Registers are not maintained with such punctuality and accuracy as is desirable. In spite of the issue of Revenue Book Circular VI—57, it is by no means sufficiently understood that in districts not under settlement the registration and maintenance of revenue statistics is the primary and most important function of kanungos.

17. Last season the Assistant Settlement Commissioner inspected field work in the districts of Raipur, Bilaspur, Sambalpur, Mandla and Jubbulpore. His notes were as usual forwarded to the Deputy Commissioners for perusal and necessary action. These tours have the advantage of bringing to light the salient defects in each district, and enable a most useful contrast to be instituted of the work of the various Inspectors whose circles are traversed. I myself inspected land record work in Narsinghpur and Damoh, and was pleased with the general efficiency of the patwaris and Revenue Inspectors.

18. Four new Land Record Circulars issued during the year. One contained instructions for the entry in the remark column of the khasra of the rights of cultivators over trees planted by them along roadsides. This Circular was designed to encourage cultivators to aid in roadside arboriculture by securing them in possession of trees so planted. The second brought to the notice of Deputy Commissioners the discovery made at the Nagpur Experimental Farm that by cutting a trench between trees and spring crops, the damage caused by the existence of trees could be minimized. It is popularly supposed that this damage is caused by shade, but the results attained indicate that the roots do more harm by drawing off the moisture required by the crop. Deputy Commissioners have been asked to acquaint the people of the discovery, and to induce them to test the theory for themselves. The Deputy Commissioner of Wardha reports that 17 experiments were undertaken during the year and their effect is being watched. The third Circular published a set

of rules drawn up by the Superintendent of Stamps regulating the grant of licenses for the vend of receipt stamps by patwaris as a tentative measure in 7 districts. The fourth laid down the procedure to be observed in drawing and distributing the salaries of patwaris with the object of reducing the balances of undisbursed pay in the Tahsildar's cash-chest.

19. The absence of reliable information in regard to the efficiency of rent collection throughout the Provinces recently attracted the notice of the Chief Commissioner. It was observed that much of the rent was collected between the 15th June, by which date the jamabandi abstracts are filed, and the beginning of the next cold weather. This office was accordingly called upon to suggest a method for securing the entry in the jamabandi abstracts of the rents collected between the 15th June and the end of the revenue year (30th September). On the recommendation of my predecessor, Rule LXXI, explanation IV, of the Patwari Rules, has been amended, and under the new procedure patwaris will leave the columns for rent collections in the abstract blank at the time of submission, to be filled up subsequently from returns submitted for each village directly after the 30th September of each year.

20. Boundary marks are, as a rule, properly maintained. But in Nimar, Chhindwara, Wardha, Bhandara and Balaghat repairs are necessary. In the first four districts action has been taken by Deputy Commissioners. In Betul the matter is engaging the Settlement Officer's attention. The marks of the professional traverse survey are, for the most part, duly preserved; but in Chhindwara, through which district I have recently passed, the subject has been neglected. The importance of preserving these marks has been impressed on the Superintendent of Land Records.

Several Deputy Commissioners have paid much attention to the condition of the patwaris' copy of village maps. In Narsinghpur, Bilaspur, Raipur, Sambalpur and Wardha defective maps have been replaced by new traces prepared by patwaris, who were called in to head-quarters in batches during the rains. In Bilaspur 565 village maps were thus replaced, in Raipur 300 new traces were prepared. Similarly in Sambalpur the maps of 199 villages were recopied.

The Deputy Commissioners of Wardha and Narsinghpur have in view the supply of duplicate traces to each of their patwaris. This step is desirable where it proves feasible, but in Chhattisgarh we have had hitherto to content ourselves with supplying one trace.

21. During the year sanction has been accorded by the Chief Commissioner to the proposals submitted by this office for filling up the vacant posts of Superintendents of Land Records by the appointment of various officials previously on deputation in the Settlement Department. The old class of District Revenue Inspectors is being gradually absorbed into the sanctioned cadre of Assistant Superintendents of Land Records.

The condition of the Patwari Fund has been separately reported on in this office No. 4613-63, dated the 23rd November 1895.

II.—Analysis of Districts with reference to Protection from Famine.

22. Village note-books have been supplied this year to the Betul, Nagpur, Chanda, Bhandara and Balaghat districts in accordance with Secretariat letter No. 5501, dated the 11th December 1894. Some delay has occurred in filling them up, doubtless owing to the existence of settlement operations. On enquiring for them recently at Betul, I learnt that they were still lying in the tahsili.

It is under contemplation to introduce the note-books into the Mandla district during the current year, and as soon as the progress of survey operations in the Chhattisgarh zamindaris justifies such a step, similar action will be recommended in these tracts.

The only districts where to my personal knowledge the maintenance of these books has hitherto received sufficient attention are Raipur and Nimar. In most districts recently traversed by the Assistant Settlement Commissioner and

myself we have found the books imperfectly maintained. In many cases the statistics of one or two years are wanting. Sometimes the books are not available in the village, having been removed by the Police or Tahsil authorities. The attention of Deputy Commissioners has been invited to Revenue Book Circular No. VI—42, and special stress has been laid on the necessity of these books being annually brought up to date during the periods prescribed in paragraph 4 of that Circular, so as to be in the hands of mukadams by the commencement of the field season. Better results are hoped for in the future, but the only way to my mind of ensuring that the orders on the subject are punctually carried out, is for the Deputy Commissioner to call on his District Superintendent of Police and each Tahsildar for periodical returns of the work transacted in connection with the up-keep of these books by kanungos and at the station-houses.

The Deputy Commissioner of Nimar has some remarks on the utility of these books, as conducing to continuity of action, and enabling a Deputy Commissioner to see whether orders given by a previous inspecting officer have been actually carried out. During my recent tour in Raipur, I found these books of great assistance to me, as through their agency, I was rapidly able to acquaint myself with the recent revenue history of villages through which I passed.

Judging, however, from the paucity of remarks they contain, I am inclined to believe that there are but few revenue officers who know as yet of their existence. In Chhindwara, I came across some old entries made by Mr. Fox-Strangways, but elsewhere they were blank.

23. In June 1894, the Government of India enquired whether certain tracts in the Saugor and Damoh districts were not well adapted for the construction of tanks and reservoirs, and whether any projects could be devised, which would be of practical utility for irrigation, and might at the same time prove useful as relief-works. A report on the subject was submitted by this office, which indicated that these districts were pre-eminently wheat-growing tracts, and that wheat was seldom irrigated in black soil country. It was represented that tank irrigation was generally unsuitable for garden crops, and that the broad-casted rice crop of these districts was rarely irrigated. The conclusion was hazarded that money spent on tanks in these areas would for practical purposes be money wasted.

III.—System of collection of Rent and Revenue in precarious Tracts.

24. In compliance with the instructions of the Government of India, reports on the occurrence of hail-storms, which were received from the districts of Balaghat, Mandla, Raipur, Wardha, Jubbulpore and Seoni were submitted, along with skeleton maps indicating the course of the storms and their approximate breadth, to the Local Government for transmission to the Meteorological Reporter to the Government of India.

IV.—Measures of Protection against Famine.

(i).—*Fodder Reserves and Arboriculture.*

25. In the Telinkheri Reserve near Nagpur seeds of teak, babul (*Acacia arabica*), khair (*Acacia catechu*), anjan (*Hardwickia binata*), bijasal (*Pterocarpus marsupium*) and kurm (*Corchorus trilocularis*) were sown. All, except teak, germinated well, but the growth attained is as yet small, owing to the barrenness of the soil, and the absence of protection for seedlings from the scorching rays of the sun. Stray cattle have done damage as in the past. An area of 10 acres has now been fenced in with prickly pear, and when this hedge is established more satisfactory results may be anticipated. The reserves supply the Farm and Horticultural gardens with Rs. 500 worth of grass for the feed of the cattle of both institutions, while the sale of surplus fodder brings in some Rs. 200.

26. The reserves in Raipur have, during the course of the year, been handed over to the District Council for a term of 5 years, the Council undertaking

to fence them within that period, and recoup themselves by sale of the produce. Five have already been fenced at a cost of Rs. 3,000. Seeds have been collected by the Forest Officer and sown. This year a very fair crop of *sukla* grass was obtained, indicating the advantages accruing from the stoppage of grazing. The cost of conservation should shortly be recouped. The Deputy Commissioner deems the word "reserves" a misnomer, as the soil is very poor, and in years of scarcity the grass crop on these lands will be the first to suffer. It would, however, be difficult to conceive a more unfavourable year than the present. Mr. FoxStrangways is more hopeful of the future utility of these plots as village forests; and if the scheme succeeds financially, surmises that malguzars will be encouraged to turn to account the large areas of useless laterite, which forms so large a proportion of the Raipur plains.

From Bilaspur comes the welcome intelligence that the opposition of the people is abating, and a disposition is apparent on the part of some malguzars to imitate the example of Government in establishing these fodder reserves. Damage has been caused by stray cattle, and stricter conservation is now contemplated with the aid of chowkidars. Fencing with prickly pear or aloes will also be undertaken.

In Sambalpur there are 18 such reserves, of which 8 have been visited by the Divisional Forest Officer. In this district they are managed by the village communities, who have hitherto failed to realize the importance of protecting them, and decline on the score of expenditure to entertain watchers.

Mr. Standen, the Settlement Officer of Betul, has tried an experiment with Japanese clover (*lespedeza stricta*) which is said to have done wonderfully well in all kinds of soil, including the thinnest sandy land in the southern States of America. After a phenomenal drought in that country it was the only fodder plant still green. There is abundance of poor sandy soil in Betul, which yields a wretched crop of grass, and the experiment is being conducted in this soil by tenants round Badnur, to whom seed has been supplied.

Roadside arboriculture has been specially reported on in this office letter No. 4887-116, dated the 4th December 1895.

(ii).—*Extension of Communications.*

27. No addition has been made to the railway system of the Provinces. Road construction has added 127 miles of new roadway, and 148 miles have been raised in class.

(iii).—*Irrigation.*

28. In his orders on the rent-rate proposals for the regular assessment of certain ryotwari villages situate in the Sironcha tahsil of the Chanda district, the Chief Commissioner requested that the general question of tank repairs, which had been raised in connection with the above proposals should be taken up by the Commissioner of the Division and the Commissioner of Settlements and Agriculture in consultation. The matter has been discussed, and the Assistant Settlement Officer consulted as to the possibility of operating through local agency, if such inducements were held out as are embodied in the Settlement Code for the establishment of rice villages through a patel. This proposal had eventually to be abandoned, as no one came forward, and a scheme has been submitted to the Secretariat, which provides for an outlay of Rs. 5,000 departmentally in repairing the tanks.

29. The number of certificates granted for land improvement, many of which are connected with irrigation, has fallen from 427 to 223. In the north of the Provinces the failure of crops during the past few years is said to have stopped expenditure on the improvement of land. The same reason is assigned in Nagpur for the small number of improvements effected. The matter appears to have received adequate attention in most districts. In Seoni, Chanda and Bhandara a number of applications were rejected on the ground that the improvements were completed prior to the issue of Revenue Book Circular II-11, or because the expenditure incurred on the improvements was insufficient to

entitle the applicants to their receipt. The largest number of sanads was issued in Balaghat, Bhandara and Chanda. The Deputy Commissioner of Balaghat has taken special pains to explain the orders on the subject to the people, but I think it is an error of judgment on his part to urge people who have made improvements to increase the outlay so as to earn sanads. The ryots are themselves the best judges of what is required, and the overdoing of an improvement may result in deterioration as, for instance, by the excessive flooding of land by constructing an embankment too high. The Settlement Officer of Seoni has found that the recommendations of Revenue Inspectors in the matter of the grant of sanads are not reliable, and he has made it a rule not to recommend the issue of a sanad until the improvement is inspected by an Assistant Settlement Officer or himself. My own opinion is that it would be wiser to insist on the inspection of the improvement by an officer not below the rank of a Naib-Tahsildar or Assistant Superintendent of Land Records before the issue of a sanad. If this view be accepted, then paragraph 3 of Revenue Book Circular II-11 will require amendment.

During the year, Commissioners of Division and Deputy Commissioners have been consulted as to the expediency of extending to rice lands the exemptions allowed to *rabi* land in the matter of improvements, and since the close of the year I have submitted the case with my remarks for the orders of the Chief Commissioner.

V.—Agricultural Experiments, including Farms.

30. The results obtained on the Experimental Farm at Nagpur have been separately reported on. The season was an unfavourable one owing to abnormally heavy rain in the late autumn, and the results were largely vitiated or obscured. The arrangement of the report has been recast on lines suggested by the Agricultural Chemist to the Government of India, with a view to bringing together, in a convenient form, the results attained from the date each experiment was started. A new experiment was undertaken with a view to comparing the yields of wheat on land manured in June according to the usual agricultural practice, and in August when the heaviest bursts of the monsoon are over, and there is less chance of the soluble particles of the manure being washed away in the drainage. Various experiments have also been tried, the objects of which are to gain some insight into the origin of the disease of rust which has had so baneful an effect recently on crops in these Provinces, and to discover some preventive or palliative. A very interesting attempt is being made to produce a rustproof variety of wheat which shall also be a marketable commodity. Cross fertilization with various species has been effected, and some grains have been obtained from various combinations. These seeds have since been sown and have thriven well. The net cost of the Farm was Rs. 8,338.

31. The Agricultural Class attached to the Farm has continued to do good work, especially in the matter of training village schoolmasters in the rudiments of agriculture. I have come across several of these men in the course of my tours, and have examined their schools in agriculture. Many of them take a keen interest in the subject, and with the aid of their school gardens they are infusing a like spirit into the boys. I have been moreover struck in several instances with the interest displayed by malguzars and tenants in these proceedings. I believe they regard this instruction with favour, and although they adhere tenaciously to the methods of their forefathers, several of them professed readiness to assist the masters in a practical illustration on a small scale of new methods, such as the careful conservation of manure. I am disposed to regard this relatively new departure hopefully, and cannot but think that the rising generation will approach agricultural problems more thoughtfully than the existing one, attributing less to the dictates of fate and more to personal exertion and initiative.

Experimental Crop Cuttings.

32. The number of experimental crop cuttings has risen from 642 to 1,165. In the northern districts of the Provinces a much larger number than usual were conducted with a view to discover the exact extent of the failure of the crops. The Settlement Department has also displayed greater activity,

information being required in the districts newly brought under settlement regarding the outturn of various classes of soil in view to the fixation of factors for land valuation.

The extent to which the various officers have contributed will be gathered from the appended table:—

	Deputy Commissioners.	Assistant Commissioners.	Extra Assistant Commissioners.	Tahsildars.	Settlement Officers.	Assistant Settlement Officers.	Superintendent of Land Records.
1893-94 ...	39	42	115	13	32	342	59
1894-95 ...	119	38	164	31	127	579	107

I am afraid that many of these experiments are still conducted in a very perfunctory manner, and that sufficient care is not taken to select typical fields representative of the season's yield in a particular soil class. Moreover the anna estimates are often quite untrustworthy. Indeed it is doubtful whether many officers understand the provisions of Revenue Book Circular III—36. It would appear not uncommon for an experimenting officer, after making an experiment, to refer the result to the standard outturn, and work out the anna estimate by rule-of-three. This procedure is quite erroneous and most misleading. The standard outturn is an all-round district average which includes the yield of very poor as also of fertile fields, and the object of the experiments now conducted from year to year is to evolve averages or standards for each class of soil in each position class. Suppose, for instance, a plot of poor *khardi* is cut which yields at the rate of 400lbs of wheat to the acre. If the district standard be 600, the experimenting officer would enter it as a 10 anna crop. But it may be as good a crop as the field ordinarily yields, and in this view the correct anna estimate would be 16 annas. What is required is more careful enquiry from the cultivators both before and after the experiment as to the relation the particular crop bears to the outturn of previous years. Care has to be taken to reconcile contradictory statements, and this can generally be done by an officer who has some knowledge of crops and their outturn with the aid of the village officers.

33. The question has often been asked why rice is transplanted in Bhandara and Sambalpur and broadcasted in Raipur and Bilaspur. When in Raipur last rains I learnt that a Brahmin malguzar had made an experiment in transplantation. I accordingly deputed the Superintendent of Land Records to the village, and he made a comparative experiment in two similar plots, lying alongside of one another and enjoying similar advantages in the matter of water supply. Whereas the transplanted acre yielded 2,070lbs. the outturn of the broadcasted plot was only 1,380lbs. Both areas were irrigated from the same tank. There appears no doubt that the food supply of these Chhattisgarh Districts could be largely increased by substituting the method of transplantation for the *biyasi* system, but more information is required as to the comparative cost of cultivation, and as to the yields in unirrigated land. For transplanted rice is very exacting in the matter of the regulation of its water supply. The Deputy Commissioner, Raipur, will be requested to conduct some experiments in regard to this matter in estates under Court of Wards' management. With the introduction of transplantation, better seed would probably be used and superior sorts of rice would be grown. At present much cheap and inferior rice goes from Chhattisgarh to Gondia for local consumption, the Bhandara people exporting their good sorts to Berar where a good price is realized.

In recent years the Deputy Commissioner, Raipur, has introduced wheat culture into the Bindra-Nawagarh zamindari, an estate under the Court of Wards, where little but rice crops were previously raised. Mr. Chapman is following suit in Sambalpur, having supplied gram seed to certain tenants of the Borasambhar and Phuljhar zamindaris during the year under report.

I have, at the desire of the Chief Commissioner, lately addressed Deputy Commissioners as to the arrangements that can be made in solvent estates in the direction of effecting agricultural improvements—a subject which was discussed in a recent Note drawn up by the Agricultural Chemist to the Government of India. Various suggestions have been thrown out, but the general plea at present is want of funds owing to agricultural depression, and we may have to wait a few years before much can be accomplished.

VI.—Cattle Breeding and Veterinary Establishments.

34. Owing to the deputation of Veterinary Captain Short to the Panjab from the 6th October to the 3rd December, and his absence on furlough from April 1895 to the close of the year, the Civil Veterinary Department was without a Superintendent during nine months of the year.

On the subject of horse breeding it is noticeable that towards the close of the year a new Arab stallion was purchased for the Narsinghpur district, through the Superintendent, Civil Veterinary Department, Bombay. In Saugor the pending question as to the scope for horse and mule breeding has been taken up with enthusiasm by the District Superintendent of Police, Mr. Seagrim, and on his recommendation the Chief Commissioner has sanctioned the purchase, at a cost of Rs. 1,200, of a second horse stallion and a donkey stallion for this district. These animals have been purchased since the close of the year by the Inspector-General, Civil Veterinary Department, and the donkey has been sent to Babugarh to be duly trained. In Saugor the system recommended by the late Superintendent, Civil Veterinary Department, of marching the stallion under escort round the district, has been so far successful that the number of mares served has risen from 20 and 21 in the previous years to 52, of which 37 coverings took place in the quarter from March to June.

The results of the servings must however be awaited.

The usual statement showing the number of mares served by the Government stallions which are maintained at Saugor, Narsinghpur and Damoh are given below :—

Quarter ending	1892-93.			1893-94.			1894-95.		
	Saugor.	Damoh.	Narsinghpur	Saugor.	Damoh.	Narsinghpur.	Saugor.	Damoh.	Narsinghpur.
December 31st ...	1	2	5	5	3	4	4	1	...
March 31st ...	6	3	3	5	2	4	7	3	...
June 30th ...	7	9	5	7	6	7	37	9	...
September 30th ...	6	2	1	4	3	2	4	4	...
Total ...	20	16	14	21	14	17	52	17	...

The Damoh stallion has not done much work, but he is being sent on tour this year. In Saugor it is hoped that the arrival of the new stallion will give an impetus to the movement. I learn from the District Superintendent of Police that the malguzars and other owners of mares are more ready to co-operate than in past years.

35. The Veterinary Dispensaries at Nagpur and Raipur have remained in charge of the Deputy Commissioners, except for the few months (21st December 1894 to the 7th April 1895) of Veterinary Captain Short's stay in these Provinces.

The extent to which the dispensaries have been used is shown by the following figures :—

District.	Number of cases treated.				Average daily attendance.
	Horned cattle.	Horses.	Other animals.	Total.	
Nagpur	309	372	220	901	14·28
Raipur	609	282	301	1,192	10·15

The popularity of these institutions is increasing, the average daily attendance in Nagpur having risen from 12·30 to 14·28. The increase in the number of cases treated falls mainly under the head "Horses."

36. In the Narsinghpur and Chhindwara districts cattle are reported to have been on the whole exceedingly healthy throughout the year. In the other districts cattle disease in some form or other prevailed. The mortality in the Arvi, Sakoli and Mungeli tahsils was considerable. In the autumn of 1895, there was a serious outbreak of epidemic disease in the Mandla district described as cow-pox. At the instance of the Assistant to the Inspector-General, Civil Veterinary Department, a Veterinary Inspector was sent to diagnose the disease, and do what he could to lessen the spread from village to village, but he arrived as the disease was subsiding, and was only able to explain to the people the various methods of treating affected cattle in future. There appears no doubt that the disease was Rinderpest. It carried off about 2,600 cattle in 153 villages.

Some organized efforts have been made by Court of Wards' employés in the Hoshangabad and Balaghat districts in the direction of segregating diseased animals. The Deputy Commissioner of the former district reports that the effect in arresting the spread of contagion has been most marked and encouraging. Mr. Phillips opines "that the people (of Narsinghpur) are beginning to understand the value of segregating affected animals, and this may account for the fact that such disease as did occur during the year did not spread much." In the Warora tahsil of the Chanda district some good work in this line is said to have been accomplished by the Tahsildar, and the people are now beginning to realize and appreciate the benefit conferred. Writing on the same subject, the Deputy Commissioner of Sambalpur remarks that the gaontias of Phuljhar and Borasambar are beginning to display an enlightened interest in the health of their cattle, and have taken proceedings and obtained convictions against persons for removing and selling skins of animals which died of disease and which had been ordered by the *panch* to be thrown away as likely to cause contamination if sold. The existence of cattle poisoning is suspected in Wardha and Sambalpur, where the traffic in hides has been enormous. In the latter district one lakh of skins have passed through the hands of a single trader. Police officers have been warned to be on the alert.

The Deputy Commissioner of Bhandara offers some remarks on the question of the disposal of hides of cattle dying from contagious disease. He would bury the whole carcass and disallow the claims of the kotwar to the skins of any animals dying from infectious disease. This and other kindred matters have engaged the attention of the Administration during the year, and in the revised wajib-ul-arz of the Betul district, provision has been made that "the carcasses of cattle which die in a village are appropriated by the kotwar, who takes these hides without payment and, in consideration thereof, is bound to see that the carcasses are disposed of in such a way that they may not be a source of danger to health. In cases where the Deputy Commissioner has reason to suspect that cattle are being poisoned for the sake of their hides, and that cattle disease is being spread by the sale and transport of the hides, he may direct that all carcasses be buried or destroyed without the hides being removed."

In the recently submitted draft of the revised wajib-ul-arz for Bhandara, the same clause has been inserted with a proviso that the owner of any animal believed to have been poisoned may claim its hide if he so desires. It is hoped that, armed with these powers, Deputy Commissioners will be able to deal adequately in the future with cases of suspected cattle poisoning and effectively check the dissemination of disease through the medium of infected skins.

37. No systematic registration of deaths from cattle disease has been attempted in these Provinces in previous years. The late Superintendent, Civil Veterinary Department, moved in the matter, but my predecessor held that it would be an unwarrantable waste of labour to attempt to register all cattle deaths occurring. There is a provision (Rule XXVII of the Patwari Rules) under which patwaris can be made to report deaths occurring from any specified disease, and a similar duty is imposed on the village watchmen by Rule 12 (VIII) of Revenue Book Circular I—62. But as the value of their returns depends on their ability, or the ability of their informants to diagnose the disease, the

rule should only be put in force for well marked and easily recognizable types of epidemics. Veterinary Captain Short formulated somewhat elaborate proposals before he left, specifying seven different heads under which deaths from disease should be classified, but the matter has rested there Having regard to the inability of patwaris to diagnose different forms of disease, and the absolute uselessness of the statistics they would collate. I am at present indisposed to call upon them for any further information beyond what they furnish under Rule XXVII when specially ordered by Deputy Commissioners on the outbreak of a virulent epidemic. When we have a Veterinary Inspector in each district, it may be possible to instruct the patwaris in batches, and in course of time secure information of a reliable nature on the subject of cattle disease.

The Deputy Commissioner of Wardha has construed paragraph 17 of the Chief Commissioner's Resolution No. 2312, dated the 16th May 1895, as requiring the registration of all cattle disease and not merely epidemic, and he has submitted statistics in detail as to the value of which I am extremely sceptical, especially as they were compiled in April for the six preceding months.

From this district comes a demand for a Veterinary Inspector, a want which I trust will soon be supplied.

VII.—Agricultural and Fiscal Statistics.

38. These returns have been prepared as in previous years in this office. The areas for which accurate statistics are available have been still further increased this year by the survey operations in Mandla, and the Chanda and Chhattisgarh zamindaris.

VIII.—Trade and Trade Statistics.

39. The quarterly and annual returns of rail-borne traffic continued to be issued and reviewed by this Department.

Traffic by road on the undermentioned routes continued to be registered during the year:—

Raipur-Dhamtari, in the Raipur district;
Bilaspur-Mungeli, in the Bilaspur district;
Gondia-Burha, in the Balaghat and Bhandara districts.

The statistics of the traffic are contrasted below with those of the previous year:—

		Raipur.	Bilaspur.	Balaghat.
		Maunds.	Maunds.	Maunds.
Exports	1893-94	55,736	30,326	154,703
	1894-95	32,630	214,314	238,767
Imports	1893-94	565,730	122,521	87,600
	1894-95	447,200	268,209	122,773

IX.—Museums.

40. The objects added to the collections of the Nagpur Museum during the year were specimens of coins, the model of a boat made of wood, a lacquered chair, a geological specimen, some stuffed animals, and a copper plate with a seal. The expenditure for the year was Rs. 779-3-1 for salaries and Rs. 204-4-2 for contingencies. During the year the Museum was visited by 190,509 persons, of whom 103,204 were men, 55,794 women and 31,511 children. The balance in hand at the close of the year was Rs. 2,969-9-9.

The Raipur Museum is in charge of the District Council. The year opened with a balance of Rs. 1,089-11-2, to which were added Rs. 400, the contribution of the District Funds. The total expenditure was Rs. 958-2-2, out of which

Rs. 547-13-0 went in exhibits and shows, many new exhibits being purchased from the Superintendent, School of Arts, Jeypore (Rajputana) and from the Secretary to the District Council, Chanda. The number of visitors was 134,689 against 223,938 in the previous year. The balance at the close of the year was Rs. 504-13-0.

X.—General.

41. During the year 1,000 copies in Marathi of coloured Pictorial Lesson Sheet, No. I (Locusts), were received and supplied to schools through the Inspector-General of Education, Central Provinces, and since its close 2,000 copies in Hindi of the same sheet were similarly distributed. There has been some delay in complying with the indents submitted by this office, which appears due to the fact that the large demand for these sheets taxes the energies of the artists employed to the utmost.

It has been suggested to the Reporter on Economic Products, that he might, with advantage, enlarge the scope of his present operations by publishing pictorial lesson sheets depicting such diseases as *smut* in wheat. I have been struck when in camp with the indifference displayed by cultivators in regard to this disease which appears particularly rife in the Lakhnadon tahsil of the Seoni district. If by means of these sheets the necessity could be instilled into children of plucking and burning the stalks of diseased ears, some practical good would conceivably have been achieved. Doctor Watt has promised to keep the matter in view, and will decide whether the subject should be treated in a pictorial lesson sheet or in an abbreviated ledger issued in vernacular.

42. The operations in connection with the rearing of the tassar crops continued during the year; but the season was unfavourable. In Bhandara the experiment was a failure, the worms having died in large numbers without making cocoons. This result is believed to be due to the fall of rain in November.

In Chanda, results were more promising, but here also, more than a normal number of deaths were reported among the worms with a proportionate falling off in cocoons. In this district 525 acres in the Government forest are under tassar silk cultivation, and a rent of Rs. 131-4-0 is realised. A few applications have been made to the Deputy Commissioner, Bilaspur, for permission to cultivate tassar in malguzari forests. These have been allowed on condition that three *baris* are formed, each to be worked in rotation, and that cultivation is restricted to this area.

In April last a parcel of 2,000 pierced and 2,000 unpierced cocoons obtained from the Bilaspur district was forwarded to Mr. Otto Anz for experiment in connection with his process of reeling and spinning silk.

43. The office of Director was held by Mr. R. H. Craddock, I. C. S., for two-and-a-half months at the commencement of the year and by myself for the remaining portion.

I have the honour to be,

Sir,

Your most obedient Servant,

L. S. CAREY,

Director of Land Records and Agriculture,

Central Provinces.

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REPORT

OF THE

DEPARTMENT OF LAND RECORDS & AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR

1895-96,

ENDING

30th SEPTEMBER, 1896.

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FROM

L. S. CAREY, ESQ., I.C.S.,

DIRECTOR OF LAND RECORDS AND AGRICULTURE,

Central Provinces,

To

THE THIRD SECRETARY TO THE CHIEF COMMISSIONER,

REVENUE DEPARTMENT,

Central Provinces.

SUBJECT.

Annual Administration Report, Department of Land Records and Agriculture, 1895-96.

Dated Nagpur, the 28th May, 1897.

SIR,

I HAVE the honour to submit the usual Annual Report on the working of the Department of Land Records and Agriculture for the year ending the 30th September, 1896.

I regret its late submission which is due to the non-receipt of the District and Divisional Reports and Statements until the month of May.

I.—ORGANIZATION AND MAINTENANCE OF VILLAGE RECORDS.

2. The revised halkabandi of the Hoshangabad district has been taken up for each tahsil separately, as its re-assessment was completed. In the previous year the arrangements for the Hoshangabad and Seoni tahsils were re-organized as explained in my report of 1894-95. During the year under report the scheme for the Sohagpur tahsil has been sanctioned by the Chief Commissioner and since its close final orders on the revised patwari halkabandi of the Harda tahsil have been received from the Secretariat.

At the same time the boundaries of the Seoni and Harda tahsils have been modified, some villages of the latter sub-division having been transferred to Seoni, while a considerable portion of the Harda tahsil has gone over to Nimar to form the newly constituted Harsud tahsil. These various alterations have necessitated the recasting of the circles of Revenue Inspectors, but in spite of the reduced area of the district it was found impossible to cut down the number of charges below 12 which was the previously sanctioned cadre of the district. The Chief Commissioner has been pleased, accordingly, to sanction the appointment of an extra Inspector to supervise that portion of the Harda tahsil which has been transferred to Nimar. The Revenue Inspectors have been posted as follows: three to each of the eastern tahsils of Sohagpur and Hoshangabad, two to Seoni and four to Harda. Head-quarters for their residence have been fixed under the orders of the Chief Commissioner, and Land Record Administration which has been somewhat disorganized in the part owing to the claims of Survey and Settlement operations, will now resume its accustomed channels.

All that remains in this district is to appoint patwaris to the Jagirs and to place these areas under one of the sanctioned Revenue Inspectors. These arrangements will, it is hoped, be consummated during the current year, as the

proposals regarding the revision of assessment of the Chhindwara Jagirs and the formation of a patwari staff have taken shape and orders are now awaited from the Supreme Government.

Some new patwaris may, however, be required for newly opened ryotwari areas, if cultivation extends therein, as is hoped, on the return of normal seasons. Prior to the commencement of Settlement operations the patwari staff of the district consisted of 435 men which was much stronger than its circumstances demanded. The aim of the Administration was accordingly to reduce the establishment, at the same time lowering the average rate of remuneration from Rs.165 to Rs.140 per head. As vested interests had to be considered, it was not deemed probable that the number of patwaris could be reduced below 375. But this policy has been kept steadily in view by the Settlement Officer and the Deputy Commissioner during the past few years, and all vacancies occurring in the staff have been left unfilled pending the revision of the halkabandi. Moreover, many of the patwaris especially in the Harda tahsil, were found to have engaged in money-lending transactions on a large scale and their continuance as village accountants on the scene of their commercial operations was clearly impossible.

Numerous transfers and dismissals were therefore necessitated, and not a few of the men transferred esteeming the gains of money-lending preferable to the fixed emoluments and steady routine of a patwari's life, resigned their appointments. The effect of the revision is then the reduction of the number of circles from 435 to 276, a measure of success far greater than was anticipated, when the general lines on which revision was to proceed were laid down some years ago. It should, however, be added that part of the decrease is due to the transfer of a portion of the district, manned by 14 patwaris, to Nimar. The actual reduction is then from 435 to 290.

3. I mentioned in my last year's report that the proposals of the Assistant Settlement Officer, Chhindwara, for the remodelling of the patwari halkabandi of that district appeared to me unnecessarily complicated and that I had returned the proposals to Mr. Montgomerie for reconsideration. The scheme has been recast by that officer and has received the Chief Commissioner's approval.

The number of circles has been raised from 146 to 149, the additions being made in the wilder parts of the district where some of the patwaris were unable to cope satisfactorily with their duties owing to the unmanageable size of their circles or the long stretches of Government forest intervening between the villages. The old "patch cultivation" has been included in these circles and a regular settlement of the same will shortly be made. The circles of Revenue Inspectors have also been recast and head-quarters fixed for residence. No addition has been made to the staff of Khalsa Inspectors, who are six in number, but an additional man will be required for the Jagirs when orders are received on the proposal to bring these tracts under Land Record Administration. On visiting Chhindwara last January I was disappointed to find that the new scheme had not been duly introduced, nor had the adjustments necessitated by the *ad interim* arrangements been effected. The matter was brought to the notice of the Deputy Commissioner who pleaded the pressure of famine duties. A completion report is now awaited.

4. Similar action has been taken in the Nagpur district on the close of the Settlement. The patwari staff has been raised from a strength of 259 to 270, the changes, as in Chhindwara, being confined to the larger circles in jungle tracts, where cultivation has expanded considerably in recent years. The number of Inspectors remains at 12, of whom three are allotted to each of the four tahsils. Head-quarters have been fixed for the residence of each of these men at a suitable place within reach of a Post Office but away from the head-quarters of the tahsil. The *ad interim* arrangements in this district were somewhat more complicated than usual, as the revised assessment does not take effect in portions of the Katol tahsil until the 1st July 1897. The necessary adjustments have, however, been effected and sanction has been accorded to an expenditure of Rs.1,172 from the general balances of the Patwari Fund to enable the new arrangements to be introduced in a satisfactory fashion. This charge is incurred once for all and is not of a recurring character.

5. During the year preliminary proposals have been framed by the Settlement Officers of Betul, Seoni and Bhandara for the revision of the patwari halkabandi of their respective districts, the expansion of the inspecting agency of the Land Record Staff and for the determination of the rates at which patwari cess is to be levied on the revision of assessment from malguzars and tenants. The rates fixed for the ryoti cess are 3 pies per rupee of rental in Bhandara; 4½ pies in Seoni and 7½ pies in Betul, while the malguzars will pay 5½ per cent. on their *kamil jamas* in Seoni and Betul and 4 per cent. in Bhandara. The question of the rates to be levied from the Zamindars of Bhandara is left over for decision until attestation and inspection have proceeded further, and a more accurate estimate can be made than is possible at present in regard to the enhancement which will result from revision of the *Takolis* and *kamil jamas*. It will be necessary in these districts to increase the number of patwaris, as the more backward tracts are inadequately manned, and the size of the circles renders it impossible for the present staff to deal promptly and punctually with the work that is expected of them.

6. It has also been necessary on the close of the re-survey of Mandla to re-consider the Land Record arrangements of this district. It will be remembered that it was re-assessed in summary fashion in the years 1888 to 1890. The second round of assessment will not commence there until 1900, and the new Settlement will not come into force until 1903 or 1904. It is impossible then to wait so long before placing the Land Record Administration on a proper footing, as the new maps have to be duly maintained from year to year in accordance with the accepted policy of the Administration.

It has been recognized on all hands that the present staff of patwaris and Revenue Inspectors is unable to cope with the heavy duties falling to their lot in connection with the up-keep of maps and records in malguzari and ryotwari areas, and the general administration of the latter tracts entails much extra work as kistbandis have to be prepared from year to year before collection of revenue can take place (*vide* Revenue Book Circular I. 3). Distances are, moreover, very great in Mandla and the villages are often separated from one another by impassable hills or wide stretches of dense jungle. It has accordingly been decided to augment the Land Record Staff by 30 patwaris and two Revenue Inspectors. The framing of the revised halkabandi has been entrusted to the Assistant Settlement Officer under the guidance of the Deputy Commissioner, and the detailed scheme is now awaited.

The additional expenditure that this increase of staff entails will have to be met from the general balances of the Patwari Fund until revision of assessment is effected.

7. The transfer of a portion of the old Khandwa tahsil to form the Harsud tahsil of Nimar involves some adjustments of a provisional and temporary character which are now engaging the attention of Mr. Montgomerie. The arrangements at present in force in the Harsud tahsil are not satisfactory. Ryotwari and malguzari estates are intermixed, but separate patwaris are in charge of each class of village. It is desirable that a geographical halkabandi should be worked out as soon as possible, but this step cannot be taken before the malguzari villages of the old Khandwa tahsil, now transferred to Harsud, have been resettled by the Settlement Officer. Mr. Montgomerie's preliminary proposals for this district should be submitted during the current year.

The Nimar district like Hoshangabad is overmanned with patwaris, and the efforts of successive Deputy Commissioners have been directed in past years to the reduction of the staff as opportunity offered. This year, however, the success attained is small. Only one patwari circle has been absorbed, a *watandar* having been dismissed for money-lending within his circle.

8. The Wardha *Kulkarni* case, which is described in para. 4 of my last year's report, has engaged the attention of the local officers during the year, and on the decision of certain appeals from aggrieved patwaris by the Commissioner of the Division, the case was reported for the Chief Commissioner's orders. These have

recently been received and it will now be possible to introduce in full the arrangements that were worked out by the Settlement Officer on the close of the Settlement operations, but have since been somewhat modified in detail in accordance with the recommendations of the Deputy Commissioner.

9. The Settlement Officer of Balaghat should shortly be in a position to submit proposals touching the revision of the halkabandi of his district, and the impending appointment of a Settlement Officer to Chanda should enable the Land Record arrangements of this district to be overhauled. In both of these districts there are not a few circles of unmanageable proportions, the recasting of which at an early date is expedient.

10. The surveys of the Chhattisgarh and Chanda Zamindaris have been prosecuted with considerable vigour during the year under report. The progress made is detailed in my Settlement Report for 1895-96, and since then large areas have been completed. As far as Chhattisgarh is concerned, the work would have been completed this season but for the famine ; but as matters now stand, only a few scattered areas will remain for disposal in 1897-98. It should then be possible to introduce Land Record Administration into the greater portion of these areas during the ensuing year. The survey of Chanda will probably take another year to bring to conclusion. After consulting local officers, I have come to the conclusion that it will not pay the Administration to survey villages, the cash assets of which fall short of Rs.15. There is not likely to be any scope for raising rents under the Tenancy Act within such areas, and the shifting character of the cultivation will render the maintenance of cadastral maps of such villages a practical impossibility. It will be best to content ourselves with records prepared on the *khasra masahat* system in such cases, thereby affording the patwaris more time to devote to the maintenance of maps and records in the more settled villages. Indeed, I have doubts whether after this somewhat material curtailment of our operations, the present staff of patwaris will be able to manage the large areas entrusted to them. To take one instance, that of Raipur. I estimate that 2,300 square miles will be cadastrally surveyed within the Zamindaris of this district, for which 89 patwaris are allotted. Thus, on an average, each patwari will have to look after 26 square miles of surveyed area in addition to the work of *khasra masahat* in the wilder and more backward villages. In the khalsa area of this district, which covers 5,322 square miles, there are 620 patwaris, or roughly 1 to each 9 square miles of total area, and owing to the multiplicity of the khasra numbers, considerable difficulty is experienced in getting the work done by these men even on the *charsala* system, which is a material simplification of the usual procedure. It would then appear that the zamindari patwari staff will have to be very considerably strengthened at an early date if Land Record work within these areas is to be satisfactorily carried out. The staff of patwaris required for the Raipur district will presumably approximate to 900 men after the next revision of assessment, and it is fortunate that a Settlement Officer will shortly be appointed to this district who will be able to look into matters and place them on a proper basis.

11. In para. 27 of the Chief Commissioner's Resolution, No. 2657, dated the 18th July 1896, on the Land Revenue Administration of the Central Provinces for the year 1894-95, the Chief Commissioner expressed a desire that I should formulate proposals in regard to the survey of the more open and settled villages of the Chhindwara and Hoshangabad Jagirs. This has already been done in the memorandum accompanying my letter No. C.-200 of 15th June 1896, on the subject of the ensuing revision of the Provincial contract. The Imperial Survey Department traversed last year portions of the Pagara and Pachmarhi Jagirs in Chhindwara, and it will probably be desirable to undertake cadastral survey during the period covered by the new contract. The patwari staff has as yet to be organised in these regions, and we cannot start this work at once ; but after a year or so when the operations in Chhattisgarh are brought to a close, I would propose that this work be undertaken. The area to be traversed is roughly estimated at 800 square miles, of which about 300 has been accomplished by the Imperial Survey Department. The remaining 500 square miles might be traversed locally, and a start might be made in 1898-99. Cadastral survey would proceed *pari passu* in

the areas traversed by the Imperial Survey Department. It would be necessary to post an Assistant Settlement Officer to the district, who would also undertake the assessment on ryotwari lines of the areas recently excised from Government forest. In this way we should bring all these Jagirs under ordinary Land Record Administration within five years from the present time. This rate of progress should suffice for all practical purposes, as under our present roster the next round of assessment will not commence in Chhindwara until 1908. Meanwhile the Deputy Commissioner of Chhindwara is engaged in getting together a staff of patwaris who have hitherto been working on the *khasra masahat* system. Some difficulty has been experienced in obtaining the services of fit men. The local Gond, who is acclimatised to these regions, is rarely sufficiently literate and displays but little aptitude. Similar action will be taken in Hoshangabad when orders are passed on Mr. Sly's report for the revision of the Jagir assessments.

12. Some ryotwari villages have been brought during the year under regular Land Record Administration in Damoh and Chanda. In the former district these villages were incorporated in adjoining circles of malguzari villages, some addition being made where requisite to the patwaris' emoluments. For the Ghorpeth group in Chanda an additional patwari was sanctioned.

In a recent tour through the Chanda district, I perceived the necessity of the Deputy Commissioner receiving periodic reports from the Land Record Staff in regard to the villages which have been leased under rice rules, on the understanding that a substantial tank is constructed for the irrigation of rice. Such villages are only surveyed peripherally at the outset, and no cadastral survey is undertaken until the period of revenue remission has nearly expired. During this period the lessee is expected to construct his tanks, raise his field embankments and settle his tenants. Under these circumstances annual records cannot be prepared until the villages have been settled in ryotwari fashion, but to ensure the object above-mentioned, I have arranged with Mr. Coxon that these villages should be attached to adjoining circles, the patwaris of which would furnish the necessary reporting agency and keep the Deputy Commissioner duly informed of the progress of the lessees operations. This measure appeared especially necessary in view of the fact that certain lessees manifested a disposition to collect rents for dry cultivation, before they had made any arrangements for the construction of the tanks which they had bound themselves in their engagements to build within a fixed period.

13. Under instructions conveyed in para. 33 of the Chief Commissioner's last Resolution on the Land Revenue Administration, a tabular form was prescribed in this office showing for each class of Land Record official the number of punishments imposed during the year. The kind of offences has also been specified in the statements which are printed as appendices to this report. Details of transfers of patwaris also find a place.

14. The behaviour of Superintendents and Assistant Superintendents of Land Records has, on the whole, been exemplary throughout the year, the only punishment inflicted being a fine of Rs.50 on the Assistant Superintendent of Land Records, Raipur, who was discovered by Mr. Scott, claiming credit for pertals which he had not himself run. This man was more leniently treated than he deserved in view of the fact that his past record was good. Of the 18 permanent Superintendents of Land Records, nine are on deputation as Assistant Settlement Officers, their places being filled for the most part by Assistant Superintendents. Both acting and permanent incumbents have displayed considerable devotion to duty, and most have earned the acknowledgments of the Deputy Commissioners under whom they have served. On the close of the year one of the Acting Superintendents, *viz.*, Mohamed Yakub, was appointed Tahsildar of Harsud, the newly-created tahsil of Nimar. The prospects of the Land Record Department have been improved during the year owing to the Chief Commissioner authorising me to submit the names of three officials of the Departments serving under my control for appointment as Tahsildar. This should in course of time aid in ensuring an equable flow of promotion throughout the Land Record Department, and should afford Assistant Superintendents and Revenue Inspectors a chance of shewing what they can do in positions of greater responsibility. Allusion should also be made to the more lately published decision of the Chief Commissioner, that half the

appointments to Naib-Tahsildarships should be reserved for Revenue Inspectors of not less than three years' service who have passed the F.A. Examination, or who having passed the Matriculation or School Final-Examination, have also emerged successful after a two years' course in the Nagpur Agricultural Class. The immediate effect of this step should be to give us a better class of applicant for the grade of Revenue Inspector. I am also hoping to recruit for the next Agricultural Class which opens in July 1897, matriculates instead of students who have only passed the Middle School, and have therefore insufficient knowledge of English for the due understanding of the scientific text-books that have been prescribed.

15. Among Revenue Inspectors, one has been dismissed for inefficiency, six degraded, 26 fined, two suspended and six transferred. The degradations include reductions of field allowance or of pay, but two men, as stated below, have been removed to non-pensionable appointments in the Settlement Department. The districts in which most fines have been inflicted are Wardha and Chanda. The inspecting staff of the latter district is weak, as several of the senior Inspectors are prosecuting the Zamindari survey or the Settlement on ryotwari lines of the areas excised from the Government forest. An indication of the slackness of the acting members of the staff is afforded by the fact that several have taken to travelling about in *ringis* instead of on horseback. Mr. Chotelal, Assistant Settlement Officer, is endeavouring to raise the standard of efficiency in Chanda, and I hope ere long to be able to instil some new blood into the inspecting staff of this district. In pursuance of this object a picked Revenue Inspector was recently sent from Betul, but the outbreak of famine has stopped all transfers for the time being. Mr. Mayes' administration in Wardha has been vigorous, and he has put his finger on several abuses. Two Inspectors of this district have been recently degraded to the post of Additional Revenue Inspector in Settlement employ (a non-pensionable appointment) for systematically falsifying their diaries, and pretending to have visited patwaris' circles when they were in reality idling at their head-quarters. That it should have been necessary to fine 26 men out of 176 (the sanctioned staff) is not altogether satisfactory, but it has to be borne in mind that not a few of the permanent staff are on deputation as Assistant Superintendents of Land Records, Assistant Settlement Superintendents, Kanungoes, or on foreign service, and with the pressure of Settlement and survey work proceeding simultaneously in 12 districts, it is often necessary to put in patwaris or other candidates to act temporarily who are not always fully qualified for the post. There is moreover a very appreciable tendency for the staff of Inspectors to slacken their exertions as soon as the Settlement Officer is removed from a district, unless the Deputy Commissioner is very vigilant, and his Tahsildars actively co-operate in enforcing on Inspectors the due performance of their duties. Under these circumstances, I do not consider that the number of punishments is more than could reasonably have been expected. There should be a marked improvement in the discipline of the staff in a few years' time, when all our surveys are completed and we get on to our second roster of Settlements, under which revision of assessment would only proceed in two or three districts at any given time. The improvements of the prospects of the staff may be expected to operate in the same direction. We should get a better class of men for the grade of Revenue Inspectors, who would be keenly anxious to do their work well so as to obtain early promotion. Many of the present men, whose educational qualifications are of a low order, and who know no English, have nothing whatever to look forward to, except their pensions and the grant of field allowances. Their enthusiasm then tends to evaporate in the performance of the same routine duties from year to year.

The transfers of Revenue Inspectors have taken place occasionally on the ground that their relations with the people of their circles were of such a nature as to render their removal desirable, but in certain cases, ill-health necessitated a change of air and scene. A Kaisth was removed from Saugor to Chhindwara because he has so many relations among the patwari staff of the former district, as to render it difficult for him to perform his duties satisfactorily there. It is understood that he is giving satisfaction in Chhindwara. One Revenue Inspector was transferred from Jubbulpore, at the instance of the Commissioner of the Division, as his conduct had not been altogether satisfactory: the second vacancy in this district occurred, owing to the death of the incumbent, and a Saugor Inspector was

posted to the vacancy. Of the two men suspended, the one who belonged to Wardha was ultimately degraded. The other was prosecuted criminally by the Deputy Commissioner, Sambalpur, for bringing undue influence to bear on a patwari to give evidence in his favour in a Civil suit relating to land. He was acquitted, but the Deputy Commissioner and Commissioner thought his retention in the district undesirable. As he knows only Uria he has been given a year's leave to study the Marathi language. Until he has mastered this tongue, he will be of no good in the Nagpur country, for one of the districts in which he is designated. Generally speaking the Inspectors have worked well and their services in connection with the scarcity in the northern districts have been acknowledged by Deputy Commissioners. It is very desirable that in the Mandla, Saugor, Hoshangabad, Chhindwara, and Nagpur districts, from which the Settlement or Survey Settlement staffs have recently been or will shortly be removed, the Tahsildars should be given clearly to understand that they are now responsible for the residence of Revenue Inspectors at their head-quarters, and for the due administration of the Department within their respective tahsils. In districts such as Betul, Bhandara, Balaghat, Nimar and Seoni the Revenue Inspectors were engaged in attestation work and were kept under close supervision by the Settlement Officer and his assistants. The state of discipline in Jubbulpore, Damoh, Narsinghpur and Bilaspur is, to the best of my belief, satisfactory. I have already alluded to the shortcomings of Wardha and Chanda, the latter of which should shortly come under settlement. To Wardha a new man has been posted from Bhandara and it is under contemplation to send another approved Inspector to this district from Saugor when the Settlement is completed. Recent inspections on the part of my Assistant shew that there is much room for improvement in Raipur and Sambalpur. The prosecution of the Zamindari survey of these districts has taken up much of the time of the Superintendents of Land Records, and they have not been able to devote sufficient time to the inspection of work in khalsa areas. The survey being now practically completed, better results may shortly be anticipated.

16. The staff of patwaris consists of 4,672 men of whom 132 have been dismissed, 65 degraded, 1,225 fined, 48 suspended and 28 transferred. The punishment roll is a heavy one, and it should be mentioned that the figures for Hoshangabad do not include the dismissals which resulted during the recent reorganization owing to disqualification under Patwari Rules or in consequence of the assignment of a share of remuneration by private agreement. No account is, moreover, taken of outsiders with no hereditary claims who were only temporarily appointed to vacancies during the currency of the Settlement. Most of the dismissals took place in the Hoshangabad district and Raipur. The money-lending propensities of the Hoshangabad patwari are well known and it was essential that the staff should be considerably weeded. This has been done during the past few years and I am sanguine that there will be much improvement in the returns of subsequent years. The Raipur patwaris continue to be very troublesome and the state of discipline appears to be in somewhat marked contrast to that of Bilaspur, where similar conditions prevail. This is, I think, attributable to the fact that a leaven of up-country men has been introduced into the Bilaspur patwari staff, who appear to be working fairly well. The indigenous material of these Chhattisgarh districts is by no means good, and it will take several years yet to bring the Raipur staff into proper order. But an early opportunity should, I am convinced, be taken to raise the pay of the lower grades and thereby to render the appointment more attractive. Of 1,498 punishments inflicted in all, no less than 548 fall on the Raipur patwari staff at a percentage of 77 per cent. on the total strength. The districts which figure worst after Raipur, are Balaghat with 60 per cent., Wardha with 57 per cent., Bilaspur, Mandla, Betul, and Chanda with percentages ranging between 35 per cent. and 40 per cent. On the other hand the districts where punishments have been least inflicted are Damoh 7 per cent., Narsinghpur 10 per cent., Hoshangabad 12 per cent., Saugor, Jubbulpore, Nagpur and Sambalpur 15 per cent. to 16 per cent. The number of punishments for non-residence is high in Raipur, Saugor and Hoshangabad, but the bulk of the punishments throughout the Provinces were inflicted for misconduct or neglect of duty. Under the head of misconduct is classed absence without leave which is so common an offence in Raipur. Of the fines which aggregate Rs.2,089 in that district, Rs.614 are for absence without leave and Rs.441 for non-residence.

In Sambalpur, where the punishments returned are not numerous, the Deputy Commissioner's usual method has been to withhold a portion of the pay of the delinquent patwari and to refund it if he is able to retrieve his reputation by subsequent good work. This form of punishment having been found most effective in securing good work, the Commissioner of the Chattisgarh Division has recommended it for trial in his other districts.

In 11 districts out of the 18 then, it may be said that the conduct of the patwaris has been fairly good and that the state of discipline is not unsatisfactory if allowance be made for the low scale of pay ruling in these Provinces.

The question of the relations existing between the Land Record staff and the people has not received sufficient notice in most reports, but the general impression conveyed is that they are characterized by friendliness. Only one or two instances are mentioned of high-handedness on the part of the staff, *e.g.*, in the Bhandara report it is stated that one patwari was dismissed for taking supplies without payment and in Nagpur a Revenue Inspector was fined for a similar offence. On the other hand it is noticed with satisfaction that 22 ordinary tenants were induced by the Land Record staff of Wardha to purchase occupancy rights in their fields.

The Commissioner of the Nerbudda Division writes: "as to the efficiency of the Land Record staff, all Deputy Commissioners appear to be unanimous" and the Sambalpur Staff is characterized by the Deputy Commissioner of that District as a "hardworking and well behaved body" who have improved considerably in their knowledge of Hindi. The maintenance of the maps in Sambalpur is a task of singular complexity owing to the extremely diminutive size of the fields, and this fact, taken in conjunction with the introduction of a new language, may be held to explain why the Assistant Settlement Commissioner was not satisfied on the occasion of his recent inspection with the standard of efficiency reached in this district.

17. The question of the residence of Revenue Inspectors in the head-quarters fixed for their abode has received some attention during the year, *e.g.*, on a representation from the Deputy Commissioner, Raipur, that some of the selected head-quarters were unsuitable, the Chief Commissioner's sanction was obtained to their alteration. At the end of the year, however, only 14 out of 22 Khalsa Revenue Inspectors were duly resident in their circles, and the Deputy Commissioner has given them up to the end of December to take up permanent residence. I had correspondence last year with the Deputy Commissioner of Jubbulpore, as I learnt that several of his Revenue Inspectors were non resident. He now reports that all with one exception have taken up their abode at the sanctioned head-quarters.

But it is clear that this important matter requires further sustained attention from Deputy Commissioners not only in those districts from which the Settlement Officer has recently been removed, but also in all other districts which are not at the present time under Settlement. The Assistant Settlement Commissioner recently found one of the Sambalpur Revenue Inspectors resident at Bargarh though, as usual, a village away from the tahsil head-quarters, had been fixed for his residence. In my opinion the best plan will be for the Tahsildar to report once every six months to the Deputy Commissioner as to the residence of his Revenue Inspectors in their sanctioned head-quarters, and a summary of the reports might be sent to this office with a statement by the Deputy Commissioners as to the action taken in each case to enforce compliance with the rules on the subject.

18. In considering the work done by the malguzari patwaris, with whom are classed the Zamindari patwaris of the Balaghat and Bhandara districts, it is necessary, following the procedure of past years, to group them according as districts are:—

A. still under cadastral survey;

B. with cadastral survey completed but under assessment;

C. with cadastral survey completed and under the ordinary rules.

Class A includes the district of Mandla only, though from some points of view the Drug tahsil of Raipur might be taken under this head, as the maps were being revised and renumbered in anticipation of the commencement of Settlement operations.

Class B includes Saugor, Hoshangabad, Seoni, Nimar, Betul, Bhandara and Balaghat in which the patwaris were employed on work connected with assessment or announcement of revised revenue.

Class C includes Damoh, Jubbulpore, Narsinghpur, Chhindwara, Wardha, Nagpur, Chanda, Raipur, Bilaspur and Sambalpur.

19. It is not possible to do much in the way of enforcing patwaris' residence in districts of Class A, as the patwaris have to spend much of their time away from their homes either in the survey of their villages or in the Settlement Office ; but as the survey of each circle comes to an end the policy is to bring steady and continuous pressure to bear on patwaris to become resident. The number of non-residents in Mandla has in this way been reduced from 93 to 69. But much still remains to be done, and the additions to the staff in the shape of the 30 newly appointed men have to be dealt with. Likewise in the districts of Class B, full effect cannot be given to the rules, and residence can only be duly enforced in those portions of each district, the reassessment of which has been completed. In all the districts of this class except Betul, Bhandara and Nimar, there has been an increase in the percentage of patwaris non-resident without permission. This is explained in the case of Hoshangabad by the fact that a number of transfers have taken place in the course of the remodelling of the halkabandi. Too great importance must not be attached to the rise of the percentage in Saugor, Seoni and Balaghat, as the figures necessarily fluctuate from year to year and the appointment of a few patwaris to act as Additional Revenue Inspectors may explain the whole divergence. In the districts of Class C it is expected that the rules will be duly enforced and an improvement is perceptible in all districts except Chhindwara, Wardha and Bilaspur. In the first-named district the reason assigned is the revision of the patwari halkabandi, and in this district I understand that some transfers were effected in anticipation of the sanction of the Administration to the detailed proposals of the Settlement Officer. A similar plea is advanced by the Deputy Commissioner, Wardha, where seven patwaris are alleged to have been disturbed by transfer on the introduction of the new scheme. Of the 23 non-residents in this district nine are newly appointed men and four are mere substitutes. In Bilaspur eight out of 16 absentees are only acting in temporary vacancies. In spite of strict measures being taken in Raipur whereby the percentage of absenteeism has been reduced from 25 per cent. to 16 per cent. the number of non-resident patwaris in the Khalsa (92) is still much too great. The efforts of the District and Land Record staff cannot be relaxed, and special attention will have to be paid to this matter in the Zamindaris as soon as the survey is completed. Other districts in which early action can at the present time be taken with advantage are Saugor, Mandla, Chhindwara and Wardha.

20. The extent to which punctuality was observed in filing the principal village returns is indicated in Statement J.

The Mandla district has done fairly well considering that a number of patwaris were still engaged on completing the survey of their circles.

In districts of Class B absolute punctuality cannot be expected, as the patwaris are not infrequently called away to do Settlement work. All things considered the results attained in these districts are very creditable. In Hoshangabad not a single paper was filed late. There are 10 districts in Class C in one of which, *viz.*, Nagpur, the Land Record work was for a couple of months at the commencement of the season, much hampered owing to the operations connected with the winding up of the Settlement. There was a good excuse then for unpunctuality in this district and it might fairly have been included in Class B.

In Jubbulpore, Narsinghpur and Bilaspur, all *milan khasras* and *jinswars* were filed by the due date. There were slight delays in a few cases in Damoh, Chhindwara and Wardha, but all these districts shew good results. In Chanda and Sambalpur matters were less satisfactory, and Raipur appears to be worst of all

with 69 *milan khasras* and 716 *jinswars* deposited after the date fixed. But there is a good reason for the delay, as the revision of the Drug maps monopolized the patwaris' attention, and it is, in point of fact, very creditable that the papers of this tahsil were filed at all. I have reason to suppose that the introduction of the new *Chitha* of *jinswars* and *milan khasra* prescribed in Land Record Circular No. 22 of 26th November 1896, will conduce to greater punctuality in this respect, as the compilation of the figures is thereby systematized and the chance of errors creeping in is greatly reduced. In the matter of filing jamabandis the results are on the whole less satisfactory. Saugor and Hoshangabad, two districts of Class B, are the only ones where all the papers were filed up to date. In Narsinghpur, Chhindwara, Bilaspur and Sambalpur, a fair amount of punctuality has been observed, but in Jubbulpore, Wardha and Chanda there were somewhat serious delays. This is explained to be due in Jubbulpore to the extra duties imposed on Revenue Inspectors in connection with the scarcity, but there is no such valid excuse forthcoming in the case of the two other districts.

The fact of the matter is that very few Deputy Commissioners as yet analyse with sufficient care the monthly work returns that they forward to this office through the Commissioner of the Division. Were they to do so, I feel confident that much greater punctuality would speedily be attained. In this connection I venture to quote a passage from para. 25 of the Chief Commissioner's Resolution No. 1829, dated the 15th April 1893, on the Land Revenue Administration of the Central Provinces for the year 1891-92.

"It will not suffice for Deputy Commissioners to merely forward these returns, as the Chief Commissioner learns has been too often the practice in the past; but it will now devolve upon them to carefully analyse the contents and record such remarks and orders as may seem called for before submission to the Director of Land Records and Agriculture. No better means could well be devised for bringing home to the district authorities their responsibilities in connection with the control of the Land Record staff and the Chief Commissioner trusts that this will be recognized and acted on."

However, when compared with last year the present returns shew decided improvement. There were no papers outstanding on the 30th September, *i.e.*, at the close of the year, as was the case in the previous year, and the balances in every column with one exception are less than in the previous year. The exception is in the case of *milan khasras* "filed within three months after date." The excess in this column during the year under report, occurs almost entirely in the Betul district and is accounted for by the fact that the patwaris were taken out of their circles to assist in pushing to completion the attestation of the tahsil.

21. I now pass on to consider the extent to which village papers were tested and here again districts of Class A may be disregarded. In the districts of Class B, the District Revenue staff is under recent orders expected to co-operate with the Settlement Department in checking patwari papers in those portions of each district which have passed from under Settlement or to which the operations of the Settlement have not yet extended. Something has been done by both Deputy Commissioners and Tahsildars in most districts, but the actual amount of check is in most districts inadequate. In Saugor, Tahsildars and their Naibs have tested 2,041 entries in 165 villages, but the Deputy Commissioner and his Assistants have passed in review only 136 entries in 11 villages. In Seoni, the return of the Deputy Commissioner's check is blank, but the report states that Messrs. Arthur and Walker made a considerable number of khasra-testings in different villages and also examined a good number of *Rasid Bahis* without leaving anything on record on the subject. The work of the tahsil establishment in Bhandara is insignificant. but this is explained to be due to the absence of the patwaris from their circles in the early portion of the cold weather. This is a valid excuse as far as the Bhandara tahsil is concerned, for the renumbering of maps tends to retard office work greatly in this district; but there was no conceivable reason why the Tahsildar of Sakoli should not have done an adequate amount of testing, and the Tahsildar of Bhandara or his Naib should have checked patwari papers during January and February. The Deputy Commissioner of Bhandara appears to hold that the examination of *Rasid Bahis* by Extra-Assistant Commissioners

which does not involve tramping the fields in the sun, compensates for a small amount of khasra-testing. This view cannot, however, be accepted. It is certainly most desirable that *Rasid Bahis* should be examined, but the correctness of the map and khasra is of primary importance. In Nimar and Betul more should, I think, have been done. The Deputy Commissioner of Betul checked only 50 khasra entries in two villages. It is not understood why the Tahsildar of Betul did no check, as Land Record work was proceeding in 300 villages around his head-quarters. Considerable activity has been shewn in Hoshangabad where the tahsil and district staffs respectively reviewed 3,651 and 676 entries in 176 and 83 villages. In Balaghat, Mr. Chitnavis has himself done a good deal as in the previous year, but he should insist on his Tahsildars taking a more active part in this work. These officials have tested only 256 entries in 50 villages, which falls at only five entries per village, a most inadequate amount.

22. I contrast below for each of the ten districts in Class C and Hoshangabad figures showing the amount of check effected by Inspectors and Superior Officers.

District.	Percentage of khasra entries checked by Inspectors.	AMOUNT OF TESTING EFFECTED BY					
		Superintendent and Assistant Superintendent of Land Records.		Tahsildars.		Deputy Commissioners and Assistant Commissioners.	
		Number of		*Number of*		*Number of*	
		Villages.	Entries.	Villages.	Entries.	Villages.	Entries.
Damoh	10	272	5,343	215	7,588	30	464
Jubbulpore ...	11	521	13,360	93	2,255	74	648
Narsinghpur ...	15	667	11,550	81	1,392	41	743
Hoshangabad ...	15	310	5,018	176	3,651	83	676
Chhindwara ...	12	263	4,005	352	2,?92	...	...
Wardha	19	557	6,669	190	?,200	94	857
Nagpur	14	135	1,561	332	3,401	48	563
Chanda	20	302	7,854	48	1,296	100	920
Raipur	12	1,138	40,626	76	2,397	47	968
Bilaspur... ...	11	871	37,181	284	5,947	89	2,044
Sambalpur ...	9	354	8,284	76	2,146	35	690

It will be observed that some testing has been done in all districts by Deputy Commissioners and Assistant Commissioners with the solitary exception of Chhindwara. No explanation is forthcoming for this omission. I am disposed to hold that the amount of check is still in most districts less than can fairly be expected, specially if the Deputy Commissioner has a covenanted Assistant. In Chanda the Deputy Commissioner assisted by Mr. Russell and two Extra-Assistant Commissioners has checked 920 numbers in 100 villages, of which the Assistant Commissioner did almost half, while the Deputy Commissioner himself checked only 118 entries in eight villages. Accepting the outturn of this district and of Wardha, where the figures are very similar, as a very moderate standard, it would appear that the amount of testing in several districts such as Damoh, Jubbulpore, Narsinghpur, Nagpur, Raipur, and Sambalpur is insufficient. In the districts of Damoh and Jubbulpore there were doubtless great calls on the Deputy Commissioner and his staff in connection with the scarcity, and this explains the shortcoming. But more might certainly have been done in districts like Narsinghpur, Nagpur and Raipur which have each a strong staff of Assistants. The Deputy Commissioner of Sambalpur spent much of his time in the Zamindaris, and in my Settlement Report I have acknowledged the assistance he has afforded me in

testing the survey work which is proceeding within these areas. The figures given in the table above include only his check of khalsa work.

23. The work done by Tahsildars in this department varies very greatly as may be gathered from the figures above. Of 3,401 entries checked in the Nagpur district 2,500 are contributed by the Tahsildar of Nagpur, while no other Tahsildar has in this district checked more than 350 numbers. Moreover, it is not apparent why the three Tahsildars of Raipur excluding Drug should check only 76 villages when the operations of the three Tahsildars of Bilaspur embrace 284 villages. A further analysis of each man's work shews that the Tahsildars of Simga and Dhamtari checked only 385 and 551 entries in 12 and 15 villages respectively, whereas the Tahsildar of Mungeli tested 1,742 entries in 47 villages, the Tahsildar of Bilaspur 1,036 in about 80 villages and the Tahsildar of Janjgir 757 in 28 villages. It is, I think, clear that the Deputy Commissioner of Raipur, who professes himself satisfied with the results reported, should fix his standard higher. Again, the work accomplished in Jubbulpore seems most inadequate when contrasted with the standard reached in Damoh. The worst results are reported from Chanda, where only 1,296 entries have been tested in 48 villages. The Tahsildar of Chanda has contributed 1,235 entries in 39 villages. In Sironcha, where the Land Record Department requires more assistance than possibly anywhere else, not a single entry has been checked. The Tahsildar of Warora returns 15 numbers checked in three villages while he of Brahmapuri tested only 46 entries in six villages. The Commissioner of the Division has taken up the matter, and a special report is promised regarding the Tahsildar of Brahmapuri, who is the same man in reference to whose neglect I had to report last year. Speaking generally, Tahsildars do not yet take enough interest in this part of their duties and in many districts they are not in proper touch with the Land Record staff, nor are their inspections conducted with due thoroughness. Recent inspections made by the Assistant Settlement Commissioner shew that the orders embodied in Land Record Circulars Nos. 11 and 19 regarding the maintenance of Pandhri registers by patwaris and their employment as stamp-vendors, are often ignored and there are indications that some Tahsildars rarely if ever check even this portion of a patwari's work. The matter has been brought to the notice of the Deputy Commissioners concerned.

24. The amount of work done by Superintendents of Land Records and their assistants has increased in most districts especially in Narsinghpur and Raipur. The Deputy Commissioner of Damoh will be requested to explain why his Superintendent has checked work in only 272 villages as compared with 411 in the previous year. In Hoshangabad better results may be expected in future, as much of the Superintendent of Land Record's time was taken up with Settlement work. A similar plea is advanced and may be accepted in the case of Nagpur. The Superintendent of Land Records was engaged in the various operations connected with the winding up of a Settlement, while the Assistant Superintendent was employed in traversing and supervising the survey of ryotwari villages.

25. The percentage of check effected by Revenue Inspectors compares as a rule well with that attained in previous years. There is a rise in Narsinghpur, Chanda and Raipur and a fall of one unit in Damoh. The decline in Wardha is, I think, due to the necessity of more careful and detailed check being impressed on the Revenue Inspectors by the Assistant Settlement Commissioner, who has frequently in his inspection memoranda deprecated cursory and perfunctory work on their part. What we may have lost in quantity we have probably gained in quality. A higher percentage of check may, I think, be expected in Nagpur and Chhindwara in subsequent years.

26. The checking of jamabandis by kanungoes has received more attention than in previous years in the Jubbulpore, Nagpur and Nerbudda Divisions. In the Chhattisgarh Division a large amount of testing took place last year.

The districts in which much greater activity has been displayed are Jubbulpore, Hoshangabad, Chhindwara, Wardha, Nagpur and Chanda, in all of which, except the last, Settlements have recently been completed. There is not much

chance of getting this work done in districts under Settlement, which fact accounts for the falling off in Seoni and Nimar. For Bhandara the return is blank, whereas some testing should have been done by the Sakoli kanungoe. The Deputy Commissioners of Saugor and Mandla should take early steps to introduce the system throughout their districts. In Mandla nothing has yet been done in this line, while Saugor returns only 525 entries checked. Last year the Chief Commissioner while commenting on the great difference in the percentage of errors discovered in the jamabandis, instructed me to enquire and report whether this was due to a varying degree of efficiency in the preparation of the jamabandis or else to a marked difference between different kanungoes in respect either of the thoroughness of their check, or their definition of what is an error.

The Assistant Settlement Commissioner was accordingly requested to look carefully into this matter in the course of his inspections. Mr. Ratnaparkhi has, during the course of the past few months, inspected the work of 11 kanungoes in the six districts of Nagpur, Chhindwara, Wardha, Chanda, Raipur and Sambalpur.

In the following tahsils he found arrears in connection with the jamabandi check:—

Name of Tahsil.	No. of Villages.	No. of jamabandis unchecked.
Saųsar	.. 419 ..	.. 230
Warora	.. 548 ..	.. 397
Chanda	.. 542 ..	.. 26
Bargarh	.. 518 ..	.. 28

He has also found frequent omissions to comply with Rules 44 and 45 of Appendix I to Revenue Book Circular III-1, *i.e.*, the kanungoes often fail to make corrections in red ink and initial the field numbers checked and omit to endorse on the jamabandi the number of errors discovered. Owing to the difficulty experienced in discovering the numbers tested and the corrections effected, the Assistant Settlement Commissioner recommends that kanungoes should append a brief memorandum of mistakes to each jamabandi they examine. Different kanungoes doubtless take various views as to what constitutes a mistake, *e.g.*, in the Hinganghat tahsil the omission of a bracket joining two amalgamated field numbers is reckoned a mistake. The entry of a wrong field area may entail corrections in several totals. In some districts this is reckoned as one mistake, in others according to the number of corrections entailed. The general conclusion arrived at by the Assistant Settlement Commissioner is that there is a tendency to exaggerate the number of errors in Wardha, and yet, when we come to examine the figures returned by Deputy Commissioners, we find only one per cent. of error in Wardha as against 9 per cent. in Nagpur and 5 per cent. in Chanda. The matter will have then to be examined further, with a view to explaining these percentages. I also propose to depute the Assistant Settlement Commissioner to Nimar during the rains to ascertain why the percentage is so high there. Putting aside Seoni where the percentage is based on a very small amount of check, the variations in other districts are not greater than could fairly be expected.

27. Last season the Assistant Settlement Commissioner inspected field work in the districts of Nagpur, Wardha, Chhindwara, Hoshangabad, Narsinghpur, Damoh and Jubbulpore. Most of the districts I visited, *viz.*, Bhandara, Balaghat, Seoni, Betul and Nimar were under Settlement, but on my way through Chhindwara I tested the Land Record work. I also paid a visit to the Drug tahsil of Raipur to settle with Mr. J. R. Scott, the lines on which the amendment of the maps which are to form the basis of the new Settlement was to proceed. The memoranda recorded by the Assistant Settlement Commissioner were forwarded as usual to the Deputy Commissioners for perusal and necessary action, and at the same time their special attention was invited by myself to the more important points which called for particular treatment. It is generally found that Revenue Inspectors and patwaris are disposed to neglect the due maintenance of the map, and I am constantly requesting Deputy Commissioners to duly enforce the instructions conveyed in Land Record Circular No. 10 of 18th May 1892. The principal provisions are that Revenue Inspectors should pass each year the pencil corrections in the map made by patwaris, and that permanent changes should

be inked over in red, this being done by the Inspector himself if the patwari is not able to do it neatly. There is at present considerable neglect of these orders in not a few districts. The Inspections of the Assistant Settlement Commissioner also shew that the diaries of patwaris are in many cases carelessly maintained and the injunctions embodied in Chapter IV of Appendix II to Revenue Book Circular III-1 are not properly observed. In particular I have often found that the description of the general condition of the crops at the close of each month (*vide* Rule XLII) is either altogether omitted or is not sufficiently detailed to be of any practical use. A third matter on which I have frequently had occasion to dwell is the proper maintenance of *Rasid Bahis*. There is no doubt that more attention is being paid annually to these useful account-books, but there is still considerable room for improvement. To quote one instance. In my recent tour through the Harda tahsil, I found that the Revenue Inspectors had not succeeded in making them an accurate reflex of the existing state of affairs. I impressed upon the Superintendent of Land Records the necessity of especial care this year as a new Settlement is being introduced, and in the case of ordinary tenants whose rents have been reduced by the Settlement Officer with the consent of the malguzars, the arrears have to be re-calculated on the basis of the revised rental, as the reductions according to written agreements taken from the malguzars have retrospective effect. It is also desirable that when rents are not paid in cash, but are secured by a decree or by inclusion in a bond, this fact should be duly stated in the receipt-book. Such amounts, as long as they remain unpaid, would be shown in the receipt-book subject to the provisions of Rule LXXVIII, which lays down that in entering the demand on account of past years, the patwari shall omit all sums which have been in arrears for a longer term than three years. Now that the Deputy Commissioner, Hoshangabad, has taken up the question, I am confident that matters will shortly be placed on a proper footing in this district, and with an accurate basis to start from there should be no great difficulty in making the entries in subsequent years.

Stress has also been laid upon the punctual writing up of the kanungoe's Statistical registers in districts in which this matter has not hitherto received adequate attention, and Superintendents of Land Records have been urged to examine their patwaris and assure themselves that they acquire the local knowledge of their circles to which allusion is made in Land Record Circular No. 15 of the 19th February 1894.

28. No new Land Record Circulars were issued during the year. I am not satisfied that in all cases the Land Record staff have entered in the khasra the rights of cultivators to the produce of trees planted by them on roadsides (Land Record Circular No. 17 of 22nd January 1895) and the matter has been pressed upon the notice of several Deputy Commissioners. Allusion is made in several of the District reports of this year to experiments that have been made to test Mr. Fuller's discovery on the Nagpur Experimental Farm, that the digging of trenches along the edge of a field, prevents damage to crops grown therein from trees standing on the margin. In some districts the tenants are stated to scout the idea of any good resulting from such a procedure. In other districts fears are entertained that the trees will be injured. But provided only surface roots are cut, there seems no good ground for these apprehensions. To judge from the experience gained on the Farm, the cutting of these roots merely results in the larger roots forcing their way down for sustenance into lower strata, and no harm to the trees has as yet become apparent. In Wardha one experiment was conducted in a cotton field which proved successful, the crop thriving better than had been the case in previous seasons. Other experiments have been made in this district and Hoshangabad on *rabi* crops and the Deputy Commissioners have promised to communicate the results later on. But it is conceivable that, owing to the losses in germination caused by excessive drought, experiments conducted in the past two seasons will not be very instructive.

29. The condition of boundary marks is generally reported as satisfactory. There has been some neglect in Damoh in maintaining the traverse marks and the Deputy Commissioner should take action through his Tahsildars. From Wardha comes a suggestion that the site of these traverse stations should be marked by stones 3 feet in height, driven full 2 feet into the ground in place of the

heaps of mud which are in constant need of repair. This proposal has been willingly accepted by Malguzars, and action is being taken accordingly. Mr. Fraser considers this a better plan than the suggestion of the Settlement Officer, Bhandara, for constructing *chandas* in brick and lime, as malguzars are not so ready to adopt the latter suggestion on the score of expense. I will examine the system adopted in Wardha when I visit the district. Meanwhile the old plan of annually repairing the mud *chandas* is being pursued in most districts. The Deputy Commissioner of Chhindwara has caused a number of trijunction platforms which had fallen into disrepair to be reconstructed by local agency and has employed a contractor in cases where the malguzars failed to put their boundary marks in proper order after due notice under sections 45 and 132 (*c*) of the Land Revenue Act. The cost will in due course be recovered from the proprietors.

The condition of the patwaris' traces of the village maps receives attention each year during the recess. Where maps are torn or disfigured the patwaris are summoned to head-quarters and new traces are prepared in which all alterations of field boundaries brought to light on the occasion of the annual field-to-field inspection are incorporated. The maps of Bhandara and Balaghat, which are reported to be dilapidated, will be replaced during the continuance of Settlement operations. For the Drug tahsil of Raipur an absolutely new set of traces has been prepared during the course of the year.

While on the subject of maps a suggestion advanced by Mr. Chapman deserves notice. He represents that if we could get the Uriyas to permanently demarcate the boundaries of their fields, the internal sub-divisions or irrigation banks which are constantly being shifted so as to make the most of water supply might be ignored in our maps. Could this be done the patwaris' traces would not be defaced by red ink corrections from year to year, and thereby rendered illegible. I have asked Mr. Chapman to try this scheme tentatively in a few villages and report the results. Any general alteration of procedure can, it is true, only be introduced when an Assistant Settlement Officer is posted to Sambalpur to revise the maps in anticipation of the advent of the Settlement Officer, but it is well to experiment at this stage so as to discover what can and what cannot be done.

30. During the monsoon months the training of the staff in districts not under Settlement receives attention at the hands of the Superintendent of Land Records and his Revenue Inspectors. Inefficient patwaris are called in and instructed in survey, area calculation or record-writing. New candidates are also trained to fill any vacancies in the staff that may arise from casualties or promtions. Similar action is taken by Settlement Officers in districts under Settlement as *madadgars* are frequently required while Settlement operations are in progress, and in not a few districts such as Betul, Seoni, Bhandara and Balaghat, some addition to the staff will be necessary when the revised *halkabandi* is introduced.

31. During the year the Chief Commissioner has been pleased to give *sub protem* promotion to Superintendents of Land Records who are acting in the place of men deputed to the Settlement Department. This step has materially improved the pecuniary position of this deserving class, upon whom Deputy Commissioners have necessarily had to make so many extra calls in consequence of the prevalence of scarcity.

The condition of the Patwari Fund has been separately reported on in this Office No. $\frac{3556}{63}$ A, dated the 20th October, 1896.

II.—Analysis of Districts with reference to Protection from Famine.

Village Note-book.

32. Village note-books have been supplied this year to the Mandla district in accordance with Secretariat letter No. 688, dated 15th February 1896, and it has been necessary to replace certain books in Wardha, Raipur and Bilaspur, which had been lost or burnt. I have had some correspondence with the Deputy Commissioners of Raipur and Wardha as to these losses. Mr. H. M. Laurie is of opinion that a mukaddam against whom unfavourable remarks are recorded by a Deputy Commissioner on the occasion of his visit to a village, always contrives that the book

shall be accidentally destroyed by fire, lost in crossing a swollen stream or eaten by white ants, and holds that it is a weak point about the village note-book system that there is no provision for loss or destruction. If these losses continue it will; in my opinion, be necessary either to make an addition to the Mukaddam Rules, under which the safe custody of the note-book would be an additional duty imposed on the mukaddam, or to transfer the book to the charge of the kotwar, who would be fined under Rule 11 of the Kotwari Rules if the book disappeared unaccountably. In reply to an enquiry as to whether the books were not valued in Wardha as an insignia of office, the Deputy Commissioner states that when on tour the books are never produced before him until they are called for; that, as a rule, they lie neglected in a corner of the mukaddam's house or more frequently are left to rust in the roof of the kotwar's hut. The only inference to be drawn from the above is that Mr. Mayes' predecessors and his Tahsildars do not utilize the book in the manner that its authors intended, and this bears out entirely the conclusions at which I have arrived during my tours for the past three years. There are as yet few Deputy Commissioners who appreciate what a lot there is to be learnt in regard to village economy from a perusal of the simple statistical tables that they contain. Were this once understood, I am confident that every District Officer would make sure that the books were properly brought up to date each year before the commencement of the camping season. As matters now stand I have the greatest difficulty in securing the maintenance of these books. On my recent tour through Betul, Seoni, Balaghat and Bhandara I was rarely able to get hold of a note-book. In some cases they had not been issued from the tahsil, in others they had been called in to the tahsil or station house, and not returned. Often when forthcoming the statistics were wanting. I have accordingly requested the Deputy Commissioners of Betul, Seoni and Bhandara to send me monthly progress reports until the arrears are wiped off. In a recent tour through the Arvi tahsil my Assistant found that 89 books remained to be written up. The Deputy Commissioner was requested to take up the matter with the Tahsildar and Kanungoe.

In Chanda, where I found a similar state of neglect, the Deputy Commissioner represented that the small progress made was due to the additional work placed on the Kanungoe in connection with the newly prescribed form of mutation register. Since then temporary moharirs have, I understand, been appointed to make the initial entries.

I have impressed upon Superintendents of Land Records that the maintenance of these registers is an integral part of Land Record Administration, and that it is for them in their capacity of Deputy Commissioners' inspecting agents to bring to his notice all cases in which the village note-books are incorrect or not up to date, as also all instances in which they are not in the hands of mukaddams during the camping season. I have also invited the co-operation of Settlement Officers and Assistant Settlement Officers in districts under Settlement, so that the Deputy Commissioner may receive information on the subject from all available sources.

Circle Note-book.

33. The form that the circle note-book should take, one of the points that was raised at the Agricultural Conference of March 1896, at which Sir Edward Buck presided, has come under discussion during the year under report. The general impression appears to be that this book and the village note-book fulfil two distinct purposes and that the introduction of the circle note-book will not do away with the necessity of maintaining a village note-book.

Famine Note-book.

34. The attention of Settlement Officers has from time to time been invited to the necessity of writing up the Famine Note-books in the course of their operations, and of not allowing the matter to lie over until the close of the Settlement, when, if previous experience counts for anything, it will probably be forgotten. They were also requested to notice the subject in their annual progress reports. The Settlement Officer of Saugor states that the Famine Note-books for Khûrai and Rehli have been completed The notes for Banda tahsil are in hand and the Saugor tahsil will shortly be taken up and completed as soon as possible.

In Seoni entries have been made against 242 villages. No information has been received from Betul, but Mr. Standen's views are that many improvements apart from the digging of wells are feasible in the direction of preventing water-logging of black-soil villages. He would cut trenches along the foot of the hills which fringe the narrow valleys and thus secure the narrow black soil strips from erosion, overlaying with gravelly silt and possible water-logging. I have commended the matter to his earnest attention. In Nimar the difficulty is to decide what class of works to enter up in the note-books. Tanks are not much in favour and embanking to any large extent does not seem feasible, as cotton and juari, the chief staples, require good drainage. Well construction is not a convenient mode of employing famine labour, but the extension of the double cropped area of the district by means of irrigation wells appears to be more in accord with the genius and inclinations of the people than any other form of agricultural improvement. The Settlement Officer, Bhandara, has overhauled the statistics in his Famine Note-books and is correcting them in the light of the information gathered at attestation. Notes have been written for most villages of the Bhandara Tahsil indicating possible improvements, and similar action has been taken for about half the villages of Tirora. In Balaghat during the recess the Famine Note-books were written up for the area which was inspected by the Settlement Officer during the field season and for some of the villages of the Katangi pargana. In response to enquiries from this office as to the progress made in writing up these registers, various Deputy Commissioners have suggested that Revenue Inspectors should prepare lists of practicable improvements. To this course I see no objection, but I have deprecated any entry being made in the note-books on the mere authority of Inspectors, and have advocated the necessity of such lists being checked by officers of superior standing. The Deputy Commissioner of Raipur reports that though he and one of his Extra-Assistant Commissioners took the books into camp they returned *re-infecta*, as they found great difficulty in deciding what would be a suitable work for Famine relief. Doubtless the experiences of the present year will have afforded many object-lessons of a very useful nature to most of our officers, especially in the rice districts of Chhattisgarh and the Wainganga valley where many local works are in progress, and they will find little difficulty in revising and amplifying the entries in these note-books on the close of the Famine.

In the Drug tahsil of Raipur Mr. J. R. Scott has done good work in this connection and the Deputy Commissioner holds that his notes form a useful basis for action. The matter is receiving some attention in Chanda at the hands of the Deputy Commissioner and Mr. Chotelal, Assistant Settlement Officer. The Deputy Commissioner of Sambalpur has framed a plan of operations, but I am not aware if any action has been taken. The Deputy Commissioner of Bilaspur remarks that the information furnished by Tahsildars is of little use. All the Wardha volumes have been lost, and in spite of a close search no clue to their whereabouts is obtainable. They have now been replaced and the statistical details at the head of each page are being filled up.

III.—System of collection of Rent and Revenue in precarious Tracts.

35. In compliance with the instructions of the Government of India, reports on the occurrence of two hailstorms were obtained from the Deputy Commissioner of Seoni and submitted along with skeleton maps, indicating the course of the storms and their approximate breadth, to the Local Government for transmission to the Meteorological Reporter to the Government of India.

IV.—Measures of protection against Famine.

(i)—*Fodder Reserves and Arboriculture.*

36. In the Telinkheri Reserve near Nagpur the seedlings of teak (*Tectona grandis*), babul (*Acacia arabica*), khair (*Acacia catechu*), anjan (*Hardwickia binata*), bijasal (*Pterocarpus marsupium*), kurroo (*Corchorus trilocularis*), ber (*Ziziphus vulgaris*), charoli (*Buchanania latifolia*) are growing slowly but steadily. An area of about 10 acres has been fenced in with prickly pear to

protect the seedlings from stray cattle, but it will take some time for the plant to form a hedge.

Two chowkidars were employed throughout the year in watching the area. The grass at Telinkheri though not very good of its kind, is still liked by the cattle. The different species of grass which grow on the hill are given below :—

Panicum colonium.	*Chrysopogan cœrulens.*
Paspalum scrobiculatum.	*Setaria glanea.*
Andropogonia annulatus.	*Pennesetium cenchroides.*
* *Andropogon triun.*	*Aristida depressa.*
* *Heteropogan contortus (spear grass).*	*Panicum cracoforme.*
Andropogoneal.	*Apluda aristala.*

Those marked with an asterisk are growing in abundance.

The Farm and the Garden continue to draw their supply of grass from the reserve. This year also an experiment in the ensilage of the grass was undertaken with similar success to that attained in the previous year.

The receipts and expenditure of the reserve are as follows :—

	Rs.
Pay of 2 Chowkidars @ Rs.6 per mensem	144
(1) Value of grass supplied to the Farm	250
(2) Do. do. to the Garden	144
(3) Do. do. disposed of by auction	140
Total ..	534
(4) Deduct cost of establishment	144
Net profit ..	390

There is then a net profit on the reserve even allowing for the interest charges on the capital sum expended in acquiring the property under the Land Acquisition Act.

At Dr. Leather's suggestion it is now proposed to irrigate the trees in a portion of the reserve for the first two or three years so as to accelerate the growth of vegetation on these hills. To this end I propose to sink a well during the current year. In the other portion the progress of natural reproduction will be watched and the experiments that have been conducted for the past few years in this direction will be continued.

37. The Fuel and Fodder reserves of Chhattisgarh are 41 in number, of which 9 are in Raipur, 14 in Bilaspur and 18 in Sambalpur. The Raipur plots have been handed over to District Council management under the orders of the Administration, but the Raipur report is silent as to how far the transfer has led to improved management. The Bilaspur reserves have brought in Rs.688 against Rs.224-8-0 in the previous year, by the sale of grass. These figures augur well in Colonel Temple's opinion for the financial success of the Bilaspur reserves. Careful guard is kept over these plots by paid watchers. Of the Sambalpur reserves half are carefully looked after, but there has been indiscriminate cutting in others which are shared by a number of villages. Some Gaontias have promised to keep paid watchmen, which is perhaps the only way of preventing similar damage in future.

The Japanese clover with which Mr. Standen was experimenting in Betul has not, I understand, flourished so far, but is being tried again.

Road side arboriculture has been specially reported on in this office letter No. $\frac{4022}{116}$, dated 26th November 1896.

(ii)—*Extension of Communications.*

38. No addition was made to the railway system of the Provinces. Road construction has added 61¼ miles of new roadway and 32 miles have been raised in class.

Under instructions contained in Revenue Department letter No. 1705, dated the 2nd May 1896, I examined and submitted to the Secretariat the reports furnished by Deputy Commissioners through Commissioners of Division in regard to railway projects which would directly serve for protection from famine or indirectly fulfil the same object by facilitating the collection of a food-supply at convenient centres from which it could be more rapidly distributed. These papers point, in my opinion, to the conclusion that the most pressing needs of the Provinces as regards protection against famine, will be met by the construction of a narrow-gauge railway from Gondia *viâ* Balaghat to Jubbulpore, with branch lines (i) to Mandla and (ii) through Seoni to Chhindwara. The main line alone would serve to protect parts of the Balaghat, Behir, Seoni, Lakhnadon, Mandla and Jubbulpore tahsils which are suffering greatly in the present critical period. The other schemes set forth in the correspondence though doubtless important, cannot vie with the Jubbulpore-Gondia project, which has received the support of the Commissioners of Nagpur and Jubbulpore. And the early construction of this line is expedient from other points of view besides that of protection against famine. It would tend to weld the Provinces more completely into one administrative whole, and there are reasons for supposing that it would not do badly from a financial standpoint.

(iii)—*Irrigation.*

39. A sum of Rs.5,000 has, it is understood, been allotted by the Chief Commissioner for the construction and repair of tanks in the ryotwari villages of Chanda. But the most important matter calling for notice under this head is the establishment of villages in Chanda on areas recently excised from the Government forest under what are known as the "Rice Rules." The subject has been dealt with in my Settlement report, but deserves brief mention here. The terms under which these villages are leased are that the lessee should construct a tank and the period of revenue remission is graduated according to the expenditure incurred. Meanwhile the lessee enjoys all rents that he may be able to collect and devotes himself to the construction of his tank, the embankment of his rice-lands and the settlement of tenants. Some 50 villages have been taken up under these rules, but a few of the lessees were half-hearted and the actual number on which work is being prosecuted with vigour is about 35. It is hoped in this way to add to the food supplies of the district, for the addition to the cultivated area is, to all intents and purposes, secure except in years of a total failure of the monsoon rainfall. The form which the agreement to be entered into by the lessees of these villages is to take is now under consideration.

At the request of the Agricultural Chemist to the Government of India, statistics were collected as to the number of irrigation wells in use in each district of the Provinces classed under the following heads :—

(1) Cut in rock.

(2) Cut in soil and brick-limed.

(3) Merely *kacha.*

Also as to the number of Persian wheels working in the Provinces with the class of well to which they are attached.

At the request of the same officer, experiments were made by the Settlement Officer, Betul, the Superintendent, Experimental Farm, and the officers in charge Public gardens, Pachmarhi, to test the lifting capacity of the self-emptying *mote* which is much used in the Central Provinces.

The results were duly forwarded to Dr. Leather.

40. Very little in the way of land improvement has been effected in the Provinces throughout the year. This is, I think, attributable to the impoverished condition of the agriculturists following on a succession of bad years. Very few sanads were accordingly granted.

The district details are as follows :—

Mandla	.. 2	Bhandara ..	.. 25
Seoni	.. 16	Raipur	.. 55
Nimar	.. 15	Bilaspur	.. 7
Wardha	.. 2	Sambalpur ..	.. 2
Chanda	.. 23		

The number of certificates granted has fallen during the past three years from 427 to 223 and thence to 147, and in half the districts no sanads were issued at all. In some districts it is alleged that the Settlement Department has taken into consideration all recent improvements for which sanads could be granted. In others I gather that a disposition exists to await the completion of the impending Settlement before undertaking improvements. During the present year of famine, however, much is being done in the way of land improvement with Government loans in many districts of the Provinces, and the landlord class generally has been aroused to a due sense of its duties and responsibilities.

A new sanad headed by an agricultural design of some artistic merit has been substituted for the unassuming letter-press used in the past, and it is hoped that the more formal character of the certificate will impress upon the people that Government is in earnest in its endeavours to encourage improvements.

V.—Agricultural Experiments, including Farms.

41.—*Farms.* The results obtained at the Nagpur Experimental Farm have been separately reported upon in this officer letter No. 3197A, dated the 22nd September 1896. Amongst those of most practical interest may be mentioned.—

(i) the experiment in tillage to test the effect of deep ploughing.

(ii) the experiment of manuring land for *rabi* crops in August instead of in June.

The first experiment is to be duplicated on another part of the Farm, so as to make sure that the success attained is not a mere accident attaching to a particular field. Endeavours will also be made, when times improve, to try it on one or two Court of Wards estates. If the second experiment after repetition for a few more years turn out ultimately successful, then it may prove of advantage to the agriculture of the country as indicating the value of manure for wheat lands even when unirrigated. That the food supplies of the country can be materially increased by the application of manure to wheat in places where water is available for purposes of irrigation, has been known for some time, and is well brought out by the experiments of the year. It has however hitherto been accepted that the manuring of black soil for wheat when irrigation is not used conduces to no good. The application of the manure after the heavier bursts of the monsoon may prove the key to the situation.

Jaunpur maize introduced from the North-West Provinces has been found to do well on the Farm and has been tried with success in the Lakhnadon tahsil of Seoni. Borneo and Egyptian cotton, which are both long stapled varieties, have given fairly good results, but I question whether we have yet ascertained the right time to put them in the ground.

The Egyptian cotton is now being tried as a *rabi* crop.

Agricultural Class.

42. The Agricultural Class attached to the Farm contains two branches, namely :—

(i) In which young men who have passed the Matriculation or Middle School Examination are trained in agriculture and surveying. These menare ultimately designed for employment in the Revenue Department or in Court of Wards service ;

(ii) In which village Schoolmasters are put through a course of the rudiments of agriculture, so that on return to their village schools they may impart simple instruction on the subject of agriculture to the sons of ryots.

The number who have attended the above classes and the number who have passed through them during the year are given below.

		Number attending class.	Number passed out.
Class I	..	14	5
Class II	..	64	61

43. The number of experimental crop cuttings has again risen from 1,165 to 1,203.

The extent to which the various classes of officers have contributed is as follows:—

Deputy Commissioners	.. 86	Settlement Officers ..	.. 65
Assisstant Commissioners	.. 150	Assistant Settlement Officers	.. 541
Extra-Assistant Commissioners	338		
Tahsildars ..	.. 23		
	597		606

The District and Settlement staffs have then done about half each. The Commissioner of the Nerbudda Division considers that this important duty has been much neglected by the District staff of Chhindwara and Nimar, an opinion in which I concur. The Deputy Commissioner of Wardha conducted no experiments. The number of experiments is sufficient, but the haphazard manner in which the fields are selected and the anna estimates are framed leaves much to be desired, and this I find is admitted by the Deputy Commissioners of Raipur and Chanda among others.

The Deputy Commissioner of Bhandara has some remarks as to the season for experiments not quite coinciding with the ordinary touring season and as to the strength of his staff. But Bhandara in normal times with three Assistants is not a heavy district, and it should be easily possible to ride out a few miles in the morning to make an experiment after due selection of a typical field.

Mr. Brigstocke also thinks that the anna estimates must be received with caution. This is doubtless the case. He moreover ventures an opinion that the difficulty of obtaining a correct anna estimate from local enquiry among cultivators has been under-estimated. That the ordinary cultivator frequently characterizes his crop as the worst on record is certainly true. But when the crop is cut and weighed and it is represented to him that in normal years the yield of his field, as educed from the experiment in the ratio of 16 to the anna estimate returned must be something phenomenal and that therefore his land must be exceedingly valuable, he immediately modifies his previous statement. What is then required is enquiry before the experiment and verification afterwards, if anything approaching the truth is to be attained.

44. Writing on the subject of the encouragement of rice transplantation in his district, the Deputy Commissioner of Raipur reports that the area so treated has increased from 754 to 20,969 acres. I would accept this alleged increase with reserve. It is probably due in part to the exercise of greater care and discrimination in the preparation of the patwari papers. But the matter has recently been pressed upon the attention of the people by the Deputy Commissioner and his subordinates in villages where the water supply enables transplantation to be effected. Mr. Laurie states that in the Kauria Zamindari transplantation of rice was carried out in a number of villages, but there has as yet been no systematic comparison of methods or collection of results on Court of Wards estates to exercise an educative influence on the people. The Deputy Commissioner hopes to arrange for something of the kind this year, but he states that the Courts of Wards, Raipur, holds very little land in its own cultivation. In big estates villages are leased, while in small ones the home-farm is handed over to the proprietors for maintenance. Meanwhile he has obtained some information from the malguzars of Arang and Tumgaon, intelligent men who have tried the two methods alongside of one another. Their figures show that there is a saving of about half the seed by substituting transplantation for the broadcasting system, while the yield of transplanted rice is from one-fifth to one-third greater.

VI —Cattle Breeding and Veterinary Establishments.

45. The Provinces were without the services of a Superintendent, Civil Veterinary Department, until Veterinary-Lieutenant Trydell joined on the 14th May 1896. Since that time he has been organizing his office, picking up the language and gaining an insight into the agricultural conditions of these parts. A knowledge of the vernacular will greatly facilitate his investigations into the various local breeds of cattle, which is prescribed in Revenue and Agricultural Department letter No. $\frac{34}{151}$, dated 6th August 1893.

46. At the present time we have four horse stallions in the Provinces, two at Saugor, one at Damoh and one at Narsinghpur; also a donkey stallion at Saugor. The new horse stallion purchased for this Administration by the Inspector-General of the Civil Veterinary Department, is giving satisfaction, and the donkey stallion after being duly trained at Babugarh has covered 32 pony mares during the five months he has been at Saugor. One of the Saugor stallions, Bin Ali, having stood 11 years in the district, is, in the opinion of the Superintendent, Civil Veterinary Department, too old for breeding purposes. Sanction to his sale has therefore been obtained and as no Provincial funds are at present available for the purpose of purchasing a substitute, Veterinary-Colonel Queripel has kindly consented to supply us with a stallion on a year's credit to prevent any disappointment on the part of breeders in Saugor.

The age of the Damoh stallion is 16 years and, in Mr. Trydell's opinion, he is too old for stud purposes, and will shortly have to be replaced. The Narsinghpur stallion is a recent purchase.

The usual statement shewing the number of mares served by the Government horse stallions is given below:—

Years.	No. of Stallions.	Saugor.	No. of Stallions.	Damoh.	No. of Stallions.	Narsinghpur.
1893-94	1	21	1	14	1	17
1894-95	1	52	1	17	1	...
1895-96	2	102	1	18	1	20

The progress in Saugor in the number of coverings is satisfactory. Mr. Seagrim reports that the progeny of "Bin Ali" is of a good stamp and he is undoubtedly a fine "getter," but latterly disappointment has been caused owing to the high percentage of his failures. The new Arab pony stallion "Yakub Khan" has covered 38 mares since his arrival in the district in December 1895. The results of his coverings must be awaited, but the local enquiries conducted by the District Superintendent of Police indicate that the majority of his mares are with foal. Mr. Seagrim roughly estimates that there are about 500 mares in his district fit for mule-breeding and 200 to 250 suitable for horse-breeding operations. It would, I consider, be well if he were able to have a census taken, so as to enable a decision to be arrived at as to whether any extension of our operations is desirable, and whether any more donkey or horse stallions should be purchased. Mr. Trydell will be asked if he can arrange this in co-operation with the District Superintendent of Police.

The number of coverings in Damoh and Narsinghpur is not satisfactory. Whether this is due to a lack of interest on the part of those in charge of the stallions or to a paucity of mares is a matter on which Mr. Trydell has been asked to enquire and report.

Following the practice of other Provinces the Superintendent, Civil Veterinary Department, has prescribed for use in these districts two certificates, the one a "covering certificate" to be given to the owners of mares covered by the horse or donkey stallion and the other "a certificate of produce" to be presented to owners of mares on their producing a foal, the progeny of a Government stallion. Under this system no room for doubt should be left as to the parentage of the foals in the event of any prizes being offered for competition.

47. The Veterinary Dispensaries at Nagpur and Raipur remained under the management of the Deputy Commissioners until June 1896, when Mr. Trydell was placed in executive charge under orders conveyed in Secretariat letter No. 2215, dated 18th June, 1896. In accordance with the recent resolution on the reorganization and extension of the Veterinary Department, these institutions will now pass under the District Councils while Mr. Trydell will inspect and offer professional advice.

The extent to which the dispensaries have been used by the public is shown by the following figures which are contrasted with those of the previous year :—

District.	Number of cases treated.				Average daily attendance.
	Horned cattle.	Horses.	Other animals.	Total.	
Nagpur 1894-1895	309	372	220	901	14·28
Do. 1895-1896	248	331	300	879	14·94
Raipur 1894-1895	609	382	301	1,192	10·15
Do. 1895-1896	750	413	403	1,866	17·56

There is not much difference in the figures of the two years in the case of the Nagpur dispensary, but the institution at Raipur is certainly gaining ground, the number of cases treated under each head having considerably increased.

The Chief Commissioner has recently sanctioned a sum of Rs,600 for the construction of a Veterinary Dispensary at Raipur, and a site has been selected by the Superintendent, Civil Veterinary Department, in consultation with the Deputy Commissioner.

Of the two Mysore bulls purchased by this Administration for the improvement of the breed of cattle in the Central Provinces, one was lent to the Court of Wards, Nagpur, and was sent to a village in Wardha belonging to the estate of Lachmi Bai, Naikin, where unfortunately it fell a victim to disease. The second Mysore bull which still stands at the Nagpur Experimental Farm is gaining in popularity, and numbers of gowlies and residents of the station send their cows to him.

48. Cattle disease in an epidemic form does not appear to have been more prevalent this year than in the past, in spite of the fact that in many districts live stock were much enfeebled owing to the scarcity of fodder and water. But the mortality in Seoni, Balaghat and the Chhattisgarh districts appears to have been large. Cattle poisoning for the sake of the hides is suspected to prevail to a considerable extent in Sambalpur and some cases were prosecuted to conviction.

The statistics of mortality reported by the Police are not reliable, and the registration of stock by the Land Record Department which has only been recently introduced, has not as yet become sufficiently accurate to justify inferences of any value being drawn from a comparison of the figures of various years. But the duty of checking these returns is being enforced on Revenue Inspectors.

In no case was epidemic disease so rife as to necessitate registration of deaths by patwaris, under Rule 27 of the Patwari Manual, but the Deputy Commissioner of Nagpur has recently called upon his staff to furnish him in future with weekly reports as to mortality of cattle in the form prescribed. The Land Record work is less heavy in Nagpur than in most other districts owing to the large size of the fields and the small number of khasra entries to be manipulated. This venture then will be watched with interest. There still remains, however, the great difficulty as to diagnosis of disease.

Segregation has been tried successfully on the Court of Wards' estates of Khaparkhera and Sobhapur in Hoshangabad, but the agriculturists as a rule display indifference to this desirable measure, as may be gathered from the Nimar

and Chhindwara reports. In many districts efforts have not been spared to make widely known the advantages of segregation, on the occurrence of a serious epidemic.

This is especially the case in Raipur, the Deputy Commissioner of which district reports that the Veterinary Inspector has given several useful and practical lectures at Tahsil head-quarters, and has distributed remedies. A set of simple rules in Hindi drawn up under the Deputy Commissioner's supervision was also circulated in the district. "These rules" the Commissioner remarks "appear to have gained some popularity. The Tahsildar of Dhamtari states that in one village named Bhothi the people were induced to try the English remedies and to their satisfaction found them efficacious."

VII.—Agricultural and Fiscal Statistics.

49. These returns have been prepared as in previous years in this office. The prosecution of survey operations in Mandla, as also in the Chanda and Chhattisgarh Zamindaris has still further increased the areas for which accurate statistics are available. The re-survey of the Mandla district is now completed. Correct statistics of total areas cannot be expected until the forest surveys now in progress have been brought to a successful conclusion. Rough estimates of areas covered by Government forests are all that is available as yet in most districts.

VIII.—Trade and Trade Statistics.

50. The quarterly and annual returns of rail-borne-traffic continued to be registered during the year. Traffic by road on the Mungeli-Nandghat road in the Bilaspur district was registered during the period March to June 1896. The statistics are given below:—

Exports—77,695, maunds from Mungeli.

Imports—33,372 do. towards do.

The other schemes for the registration of road traffic in the Raipur and Balaghat districts were held in abeyance owing to the failure of crops.

IX.—Museums.

51. The number of Museums in the Central Provinces remains the same, *viz.*, two—the Provincial Museum at Nagpur, and the local one at Raipur. The institution at Nagpur is in charge of the Agricultural Department. The Budget grant for the year 1895-96 was Rs.1,552 from the Provincial revenues, of which Rs.792 were for salaries and Rs.760 for contingencies. The balance at the close of the year was Rs.3,557-9-9. The objects added to the Museum during the year include certain specimens of coins. The impression of a stone slab lying in the Museum since 1861 was sent to Dr. E. Hultzsch, Ph. D., Government Epigraphist, Bangalore; its translation in English has been published by him in *Epigraphia Indica*. An impression of three copper plates presented by the Deputy Commissioner, Sambalpur, was also sent to Dr. Hultzsch. Its translation has not been received as yet. During the year 1895-96 the Museum was visited by 237,219 persons, of whom 123,786 were men, 76,918 were women and 36,515 were children.

The Raipur Museum is in charge of the District Council. The year opened with a balance of Rs.504-13-0 and the total receipts amounted to Rs.450, thus making the total income of the Museum Rs.954-13-0. Out of this Rs.510-2-8 was paid away during the year, leaving Rs.444-10-4 as a balance at the close of the year. A contribution of Rs.400 is received annually from the District Fund. The Municipal Committee have agreed to provide a sum of Rs.150 in their budget for 1896-97 as a contribution to the Museum Funds. The chief item of expenditure is that of establishment, Rs.324. Very little (Rs.51 only) was this year spent on exhibits and shows, a few trifling articles being bought from the Secretary,

District Council, Chanda. Admission is free. The number of visitors was 118,451, as against 134,684 in the year previous.

X.—General.

Collection of economic products.

52. At the request of the Reporter on Economic Products to the Government of India notes on wax and honey and dye and cloth printing were furnished, each Note being accompanied by samples.

A memo. embodying certain information regarding safflower (*Carthamus tinctorius*) (Vernacular *kusum*) together with a statement showing the area under cultivation was forwarded to the Reporter with this office No. $\frac{2643}{163}$, dated the 14th August 1896. Botanical specimens are being collected.

A collection of edible* oils and 5lbs. of the plants *Ammania baccifera* (agia) and lichens (dagadful) and 5lbs. of the seeds of *Lathyrus satious* (lakh) for the Imperial Institute were also transmitted to the Reporter. The Deputy Commissioner, Mandla, also supplied the Reporter with roots, botanical specimens of leaves and flowers of *Rubia cordifolia* (manjeet).

*Mahua (*Bassia latifolia*), mustard, sirguja or jagni, linseed, safflower or khardi.

Enquiries are now in progress regarding the undermentioned economic products :—

(1) Sola pith (*Arspera*).

(2) Arnotto dye (*Bixa orellana*).

(3) Job's tears (*Coix lachryma*).

Botanical specimens are also being collected.

Inspection of Rain-Gauges.

53. With this Office letter No. $\frac{1992}{107}$, dated 5th May 1891, Deputy Commissioners were furnished with a supply of 20 postcards received from the Meteorological Reporter to the Government of India for the record of inspection notes, and they were instructed to fill up two copies on the occasion of each rain-gauge inspection to be despatched, one to the Meteorological Reporter to the Governmentof India and the other to this office.

In this Office letter No. 368, dated 16th February 1893, it was pointed out to the Political Agent of the Chhattisgarh Feudatories and the Deputy Commissioners of the marginally noted districts that the Government of India have laid great stress on the importance of securing the periodical inspection of rain registration stations and they were asked that this matter should receive their early attention.

Saugor, Betul, Damoh, Wardha, Jubbulpore, Nagpur, Seoni, Chanda, Narsinghpur, Bhandara, Hoshangabad, Balaghat, Nimar and Bilaspur.

These orders have been lost sight of by most Deputy Commissioners. During the year ending 30th September 1896 reports relating to the inspection of only six rain registration stations were received in this office as shown below :—

Statement showing the number of gauges inspected from 1st October 1895 to 30th September 1896.

District.	Name of Station.	Date of Inspection.	By whom inspected.
Saugor ..	Rehli ..	30-1-'96 ..	Dr. C. Henderson, Civil Surgeon.
Narsinghpur ..	Gadarwara ..	30-10-'95 ..	Mr. F. A. T. Phillips, Deputy Commissioner.
Ditto ..	Ditto ..	26-9-'96 ..	Ditto.
Hoshangabad ..	Seoni ..	3-3-'96 ..	Mr. H. A. Crump Deputy Commissioner.
Nagpur ..	Umrer ..	1-12-'95 ..	Mr. E. R. K. Blenkinsop, Assistant Commissioner.
Ditto ..	Katol ..	8-1-'96 ..	Mr. W. A. Nedham, Deputy Commissioner.

54. The Settlement Officer of Balaghat, during the course of his village inspections, observed that the repeated efforts of some villagers to establish a mango grove had failed on account of the roots of the young trees being attacked by white ants. I accordingly consulted the Reporter on Economic Products to the Government of India, who suggested the trial of a preparation called *Gondal Fluid* as a preventive and furnished this office with copies of a section of his Report on Tea Blights relating to white ants. Copies of this report were sent to the Settlement Officers, Balaghat, Betul, Nimar, Seoni, to the Superintendent, Experimental Farm, and to the Tahsildar Pachmarhi, with instructions to conduct some experiments and to report results. The experiments made by the Superintendent, Farm, indicate that the fluid is efficacious, but more experience is required. The results of the experiments that are being made by the other officers will be awaited.

55. The office of Director was held by myself throughout the year.

I have the honour to be,

SIR,

Your most obedient Servant,

L. S. CAREY,

Director of Land Records and Agriculture,

Central Provinces.

Punishments inflicted on Patwaris during year ending 30th September 1896.

Nature of Offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsinghpur.		Hoshangabad.		Nimar.		Betul.		Chhindwara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
		Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Non-residence	Dismissed	1	...	6	...	3	...	...	...	...	...	2	...	6	...	...	...	...	...	3	...	...	...	4	...	1	...	...	...	...	...	18	...	...	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33	...	...	...	...	...
	Fined	30	127 8 0	...	...	11	74 6 2	...	...	...	...	4	14 0 0	14	244 8 0	...	...	1	9 15 10	...	...	2	27 4 0	7	32 0 0	...	...	...	...	...	...	90	441 3 0	...	...	3	6 0 0
	Suspended	1	...	...	...	3	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	4	...	2	...	...	...
	Transferred	1	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	1	...	...	...	...	...	2	...	1	...	...	...	...	...	...	...	...	...
	Total	33	127 8 0	6	...	17	74 6 2	...	...	...	...	8	14 0 0	24	244 8 0	1	...	1	9 15 10	4	...	2	27 4 0	11	32 0 0	7	...	1	...	...	...	145	441 3 0	2	...	3	6 0 0
Misconduct	Dismissed	5	...	...	...	...	...	...	...	...	...	...	...	6	...	1	...	1	...	1	...	7	...	...	...	...	...	2	...	2	...	2	...	3	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	1	8 5 4	...	...	...	...	...	...	1	10 8 0	9	83 13 4	18	115 3 0	38	198 8 2	1	12 0 0	...	...	...	...	7	103 9 3	307	1,388 2 11	...	...	...	...
	Suspended	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	3	...	1	...	2	...	...	...	3	...	...	...	1	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	2	...	...	...	...	...	...	...	...	...	1	...	...	...
	Total	6	...	...	...	...	...	2	8 5 4	...	...	...	...	6	...	2	10 8 0	11	83 13 4	19	115 3 0	52	198 8 2	4	12 0 0	2	...	2	...	13	103 9 3	313	1,388 2 11	4	...	1	...
Neglect of work (including inefficiency).	Dismissed	5	...	...	...	1	...	...	...	3	...	2	...	8	...	...	...	...	...	...	...	1	...	...	...	...	...	3	...	1	...	20	...	3	...	...	...
	Degraded	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	*	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	19	...	...	...
	Fined	18	60 14 0	4	...	39	120 11 2	39	155 14 0	23	68 1 3	12	65 0 0	10	36 0 0	44	197 10 8	57	509 6 8	3	10 10 8	62	238 4 0	24	57 10 8	41	181 12 8	50	217 3 3	48	433 12 0	59	202 11 4	92	606 1 9	33	45 5 8
	Suspended	...	...	...	...	...	...	...	...	5	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	5	...	...	...
	Transferred	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	24	60 14 0	4	...	40	120 11 2	39	155 14 0	36	68 1 3	17	65 0 0	18	36 0 0	44	197 10 8	57	509 6 8	3	10 10 8	63	238 4 0	24	57 10 8	48	181 12 8	53	217 3 3	51	433 12 0	79	202 11 4	119	606 1 9	33	45 5 8
Dishonesty	Dismissed	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	2	11 5 4	...	...	...	...	...	...	...	...	1	25 0 0	...	...	5	31 0 0	3	16 0 0	1	10 0 0	...	...	...	...	...	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	2	11 5 4	...	...	2	...	...	...	...	...	1	25 0 0	2	...	5	31 0 0	3	16 0 0	1	10 0 0	...	...	...	...	...	...	...	...	...	...
Pecuniary embarrassment.	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	2	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	3	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
Physical inability to stand out-door work.	Dismissed	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	57 0 0	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
	Total	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	11	57 0 0	2	...	...	...
Grand Total.	Dismissed	12	...	7	...	4	...	...	...	3	...	7	...	20	...	1	...	1	...	4	...	10	...	4	...	1	...	5	...	3	...	40	...	10	...	...	...
	Degraded	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	1	...	33	...	19	...	...	...
	Fined	48	188 6 0	4	...	50	195 1 4	42	175 8 8	23	68 1 3	16	79 0 0	24	280 8 0	45	208 2 8	68	628 3 10	21	125 13 8	107	495 0 2	35	117 10 8	42	191 12 8	50	217 3 3	55	537 5 3	467	2,089 1 3	92	606 1 9	36	51 5 8
	Suspended	2	...	...	...	3	...	1	...	5	...	5	...	...	...	1	...	1	...	2	...	3	...	1	...	6	...	...	...	5	...	5	...	7	...	1	...
	Transferred	2	...	2	...	4	...	...	...	...	...	...	...	4	...	...	...	1	...	1	...	4	...	2	...	2	...	3	...	...	...	3	...	1	...	...	...
	Total	64	188 6 0	13	...	61	195 1 4	43	175 8 8	36	68 1 3	28	79 0 0	48	280 8 0	47	208 7 8	70	628 3 10	28	125 13 8	124	495 0 2	42	117 0 8	58	191 12 8	58	217 3 3	64	537 5 3	548	2,089 1 3	129	606 1 9	37	51 5 8

* Includes punishments imposed on 30 patwaris on account of absence.

REPORT

OF THE

OPERATIONS OF THE DEPARTMENT OF LAND RECORDS & AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR ENDING

30th SEPTEMBER 1897.

Allahabad
PRINTED AT THE PIONEER PRESS

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CENTRAL PROVINCES,

FOR THE YEAR ENDING THE 30TH SEPTEMBER 1897.

No. $\frac{2083}{3}$.

FROM

L. S. CAREY, ESQ., I.C.S.,

DIRECTOR OF LAND RECORDS AND AGRICULTURE,

" " *Central Provinces,*

To

THE CHIEF SECRETARY TO THE CHIEF COMMISSIONER,

REVENUE DEPARTMENT,

Central Provinces.

Dated Nagpur, the 13th May 1898.

SIR,

I HAVE the honour to submit the usual Annual Report on the working of the Department of Land Records and Agriculture during the year ending the 30th September 1897.

The report is for the first time submitted in the new form prescribed by the Government of India in the eighth of the series of resolutions issued under Revenue and Agricultural Department No. $\frac{3}{39-I}$, dated 20th March 1897, on the proceedings of the Agricultural Conferences of 1893 and of 1895-96.

I regret its late submission, but the requisite materials in the shape of the Revenue Administration reports of Deputy Commissioners and Commissioners, with their appended statements, were only received at the close of April.

SECTION I.

PREFATORY.

2. The Office of Director of the Department of Land Records and Agriculture was held by me throughout the year, while the post of Assistant to the Commissioner of Settlements was held by Mr. M. D. Ratnaparkhe, except for two months, when Mr. Kutbud-din acted in the appointment.

Tours of Director.

3. Early in November 1896, on the outbreak of famine, I was deputed by the Chief Commissioner to the Raipur district, to enquire into the situation and assist the Deputy Commissioner in framing a scheme of relief operations.

During my regular cold-weather tours I inspected field work in nine districts, *viz.*, Nagpur, Chanda, Bhandara, Balaghat, Seoni, Chhindwara, Hoshangabad, Betul and Nimar. In five of these districts, settlements were in progress and the inspection of attestation operations was of primary importance, although there were many other cases awaiting disposal, after discussion with the Settlement Officer. In Chhindwara, Hoshangabad and Nagpur, settlements had recently been completed, and the main object of the visit was to ascertain how the

establishments were settling down to ordinary Land Record routine, whether effect was being duly given to the new arrangements touching the remuneration of patwaris and kotwars, and whether the revised rents fixed by the Settlement Officer had been duly entered in the tenants' *rasid-bahis*. The visit to Chanda had a four-fold object—(i) to inspect the zamindari survey work; (ii) to ascertain how far the maps and records of *khalsa* villages were being maintained, especially in respect to the record of *old fallow*. In view of the impending Settlement, this was a matter of more than ordinary importance in this district at that juncture; (iii) to examine into the working of the rice-village rules of the Settlement Code in accordance with which leases of waste land are granted to individuals with a period of exemption from revenue payment in consideration of the construction of irrigation tanks. The subject-matter for inclusion in the form of indenture to be executed by the lessees of these blocks and by the Deputy Commissioner as representing the Secretary of State, was also considered along with the Assistant Settlement Officer whose proposals were ultimately submitted through the Deputy Commissioner and this office to the Secretariat. The form has recently been sanctioned by the Chief Commissioner after being duly engrossed in legal phraseology by the Government Advocate; (iv) the management of the *waste* and *forest* produce in ryotwari estates was also investigated in view to the submission, to the Administration, of a report on the working of the various systems. Orders on this subject have since been issued in Revenue Book Circular VII-15, dated the 11th September 1897, which should meet many of the difficulties that arise in the early stages of the existence of these villages and remove not a few present causes of friction between the Revenue and Forest Departments.

In March 1897, I visited Saugor with a view to settling certain matters in connection with the winding up of the Settlement, and during the rains I inspected office work in Bhandara, Balaghat, Nimar and Bilaspur, where settlements or surveys were in progress.

4. My Assistant, Mr. Ratnaparkhe, travelled on inspection duty in six districts, *viz.*, Nagpur, Chhindwara (Sausar tahsil), Wardha, Chanda, Raipur (southern tahsils), and Sambalpur. It was no use deputing him to the north of the Provinces where famine was raging. His tour was accordingly so laid out as to embrace the least affected tracts. During the rains he inspected the Chanda Survey Office and visited the various rice districts in connection with an enquiry as to the shape in which transactions in rice are, for the most part, conducted. On the submission of his report an amendment to Revenue Book Circular VIII-1 was issued, in accordance with which the prices of rice, *cleaned* and *uncleaned*, will be shown in future in the wholesale return, instead of rice, *husked* and *unhusked*,—the former being the forms in which rice is usually offered for sale in the market.

Earlier in the year the Assistant to the Settlement Commissioner travelled from district to district on the line of Railway, with a view to removing unaccountable discrepancies in the dates of sowing and harvesting of various crops, which had been reported from the different districts of the Provinces.

SECTION II.

Land Records Establishment.

Measures taken to improve the prospects of the staff.

5. As a result of the conference on agricultural subjects held under the presidency of Sir Edward Buck at Jubbulpore on the 3rd and 4th March 1896, the Director was permitted to nominate annually three members of the Land Record Staff for appointment as Tahsildar and Munsiff. Two nominations have accordingly been made, but as yet neither of the nominees have received appointments. Further, in order both to secure a better class of applicant for the post of Revenue Inspector and to obtain greater practical experience among the junior members of the subordinate Civil Service, one-half of the appointments to Naib-Tahsildarships has been reserved for Revenue Inspectors of not less than three years' service who have passed the F.A. Examination, or who, having passed the Matriculation or School Final-Examination, have also passed through the two-years' course in the Nagpur Agricultural Class.

During the past few months in consequence of good work done during the famine, two Inspectors have received appointments as Naib-Tahsildars from the Deputy Commissioners of Seoni and Saugor, and a third Revenue Inspector has been promoted to the Managership of the Court of Wards, Chanda, on the recommendation of this office.

It has also been arranged that a fourth Inspector now acting as Assistant Settlement Superintendent should go on foreign service in the Rehrakole Fendatory State, in the autumn of this year, the Political Agent having offered him an appointment of Rs.80 per mensem.

Revision of Establishments.

6. As regards revision of Land Record Establishments, the following matters deserve mention :—

Balaghat—Nimar.

During the year preliminary proposals have been framed by the Settlement Officers of Nimar and Balaghat for the revision of the patwari *halkabandi* of their respective districts, the expansion of the inspecting agency of the Land Record staff and for the determination of the rates at which patwari-cess is to be levied on the revision of assessment from malguzars and tenants. The rates fixed for ryoti-cess are 6 pies per rupee of rental in Balaghat. In Nimar, the tenants of malguzari villages recently transferred from the old Harda tahsil to Harsud will pay at 6 pies per rupee of rental, while the tenants of the remaining malguzari villages of the district will contribute one anna per rupee on their rental payments. In the ryotwari estate, the rate will continue at 6 per cent. on revenue payments. In Balaghat and Nimar the rate fixed for the malguzari-cess is 5 and 6 per cent., respectively, on *kamil* jamas. The question of the rate at which the zamindars in Balaghat should be assessed to patwari-cess has been left over for subsequent decision. The weak patwari staff of Balaghat will be strengthened in the course of revision by the addition of 20 new posts and large circles which are at present quite unmanageable will be sub-divided. In Nimar (as in Hoshangabad prior to the recent revision) the reverse is the case. The district is overmanned with patwaris, and the Settlement Officer has been enjoined to reduce the staff where possible, but as there are many *watandars* with hereditary rights over their circles, the scope for such remedial action is decidedly limited.

A further proposal of the Settlement Officer, Balaghat, for the amendment of tahsil boundaries will be referred separately through the Deputy Commissioner and the Commissioner of the Division for the orders of the Administration.

The staff of Revenue Inspectors will also be raised in each of these two districts. Meanwhile the Chief Commissioner has sanctioned the creation of another Revenue Inspector's post for the Harsud tahsil. One of the Revenue Inspectors attached to the Burhanpur tahsil for ryotwari work, will be paid from Provincial Funds.

Mandla.

7. The detailed scheme for the revision of the Land Record arrangements of Mandla was received and sanctioned during the year. The staff has been augmented by 30 patwaris and two Revenue Inspectors.

Saugor.

8. From this district the revised *halkabandis* for patwaris and Revenue Inspectors, have not yet been received. The case was practically ready for submission in July 1897, when the Settlement operations were wound up by the Assistant Settlement Officer, but the Deputy Commissioner thought it necessary to further reduce the number of patwari circles by absorbing some that had become vacant during the famine. Since then the revenue administration of the district has been very heavy owing to the famine, and the special enquiries thereby necessitated in regard to suspension or remission of revenue.

It is, however, desirable that no further time should be lost in dealing with the case, otherwise great confusion may be apprehended.

9. The Settlements of Seoni, Betul and Bhandara should shortly be concluded, and the Land Record establishments of these three districts will then be placed on a proper footing, unwieldy circles being recast so as to enable the patwaris to deal

adequately and punctually with their annual work. Some circles are now so large that the proper maintenance of the map, which is the basis of all Land Record work, is well nigh impossible. The revision of the *halkabandi* is now engaging the attention of the Settlement Officers of Betul and Seoni. It would be well, were the Settlement Officer, Bhandara, to take up during the coming monsoon the revision of the patwari circles in the Bhandara and Tirora tahsils, the re-assessment of which will then be completed. In this way Land Record administration would be put on a proper basis throughout the greater part of the district before the removal of the Settlement Officers.

10. For the Chhindwara *jagirs*, the Chief Commissioner has been pleased to sanction a staff of 18 patwaris on a monthly stipend of Rs.10, *vide* Secretariat letter No. 4559, dated 16th October 1897. This staff which has been gradually recruited during the past few years was hitherto paid from contingencies, but the Comptroller objected and the outbreak of the famine necessitated the rapid organization of the whole staff, in view to the administration of village relief. All this expenditure is as yet debited to the general balances of the Patwari Fund, and it is hoped that early orders may be received touching the revision of Settlement in the Chhindwara and Hoshangabad *jagirs*, so that the *Jagirdars* and other agriculturists within these estates may be called upon to contribute the usual dues and cesses towards the support of their own village accountants.

The question of the appointment of a Revenue Inspector to the Chhindwara *jagirs* is still pending. Up to the 30th March 1897 as survey on the *khasra masahat* system was progressing, the Inspector in charge was paid from Settlement Funds. From that date he became a charge on the Famine administration. The Deputy Commissioner, Chhindwara, has recently been addressed on the subject. No time should be lost in soliciting the sanction of the Administration to the addition of one post of Revenue Inspector to the Chhindwara Land Record staff.

11. On the close of the Chhattisgarh zamindari survey in the hot weather of 1897, the question of increasing the staff of patwaris in all three districts in view to their coping with their Land Record duties came up for consideration, but owing to somewhat numerous transfers of Deputy Commissioners in Sambalpur and the handing over of the Raipur Land Record staff from the Deputy Commissioner to the Settlement Officer, the progress hitherto made in dealing with the case, is not very satisfactory.

Bilaspur.

From Bilaspur, however, preliminary proposals, which involve the addition of one Revenue Inspector and 30 patwaris to the Land Record Establishment have been submitted and sanctioned in Secretariat letter No. 826, dated 11th March 1898, subject to any reconsideration which may be found necessary on revision of Settlement. The detailed *halkabandi* proposals are now awaited and should be submitted without delay as the survey operations will lose much of their value, if the village maps are not duly kept up to date, and the attestation operations of the Settlement now impending will be seriously impeded.

The attention of the Deputy Commissioner and his Assistant Settlement Officer is being invited to this matter, and the requisite staff will be trained during the approaching recess. Meanwhile to facilitate the work of Inspectors, the limits of their circles in the Janjgir tahsil have been recast in anticipation of Secretariat sanction. It should be added that the cost of the extra establishment alluded to above will fall on the Provincialized Patwari Fund without any set-off in the shape of increased income from these estates; but, on the other hand, it is observable that the Bilaspur district will still pay its way as there have hitherto been annual savings.

Raipur.

The Deputy Commissioner of Raipur has represented that the staff of patwaris, *viz.*, 11, sanctioned for the Khariar zamindari, is altogether inadequate, seeing that the estate contains 427 villages, covering 700 square miles. It is impossible for a patwari to control 39 villages with an area of 64 square miles, which is the average under existing

circumstances. I accordingly sanctioned the entertainment, for a period of six months, of ten *madadgars* payable from the head "Contingencies," with a view to the due preparation of the papers of this season. Meanwhile the Deputy Commissioner was asked whether it was to be inferred that the staff of the other zamindaris was sufficient, to which he replied that the case of Khariar was most urgent, but that the number of patwaris in several more of the eastern zamindaris would have to be increased, while the western zamindaris were adequately manned. The Settlement Officer has now been asked to take up the case without delay and submit a preliminary forecast of his requirements as in the case of Bilaspur.

Sambalpur.

In this district, *khalsa* and zamindari areas are much intermixed and much of the Inspector's time is wasted by continuing the old arrangement (however suitable when the survey was in progress) under which different Inspectors hold sway in malguzari and zamindari areas. Each of the large and compact zamindaris of Phuljhar and Borasambhar constitutes a separate Revenue Inspector's circle, and no change in this arrangement is advocated, but the other seven circles have been provisionally recast in the interests of efficiency, in accordance with a scheme submitted by the Deputy Commissioner. The patwari staff of the Sambalpur zamindaris has been represented by Mr. Lancaster, Assistant Settlement Officer, who was in charge of the zamindari survey, to be inadequate, and that Officer estimates that an additional 28 or 30 patwaris will be required. The Deputy Commissioner has been asked to submit a forecast similar to that framed by the Deputy Commissioner of Bilaspur, and to examine the financial aspect of the case. Sambalpur is already largely subsidized from the general balances of the Patwari Fund, and until revision of assessment which, according to the roster, commences in 1900, no accession of income is to be expected. But the only alternatives before us are—

(i) to increase the staff;

(ii) to be satisfied until revision of Settlement with a *girdawari* of half the zamindari villages each year.

The latter will at once be admitted to be an unsatisfactory arrangement, and it is desirable, if possible, that our system should be uniform throughout the Provinces. But for the famine, there would have been no difficulty in providing for this extra expenditure, as the balance to the credit of the Patwari Fund was substantial. But during the past year, much additional expenditure has been thrown upon the Fund in connection with extra establishments required solely for famine purposes, and, at the same time, the income has seriously contracted. But the exact position of affairs cannot be appreciated until the final accounts for the year ending the 31st March 1898 are available.

Chanda.

12. The survey of the Chanda zamindaris is still in progress, but should be completed this year. It will then be necessary to take similar action in this district, where the zamindari patwari staff, *viz.*, 19, is quite insignificant, compared with the enormous areas that have to be controlled. About 2,000 square miles are being surveyed in these zamindaris, and there are, moreover, many villages in which the conditions are as yet too wild and unsettled to justify survey, but for which rough records on the *khasra masahat* system will have to be maintained.

Improvements in the system of Land Record Administration.

13. The introduction of the new *chitha* of *milan khasra* and *jinswars* has proved beneficial and the various compilations are prepared with more punctuality and accuracy than was the case in the past, when *milan khasras* were compiled subsequently to the *jinswars* and errors only came to light late in the day. There was unnecessary delay in some districts in adopting the new system; but it has, I believe, been introduced everywhere during the past cold weather.

14. In these Provinces, we have ordinarily only one field-to-field inspection by patwaris, but under the orders of the Administration a special *kharif girdawari* was undertaken in the months of August and September with a view to ascertain the extent (if any) to which summer sowings had contracted in consequence of the famine. The results for 17 districts were submitted to the Chief

Commissioner with my letter No. 4610, dated 28th November 1897, but the Mandla figures did not reach me until the 28th January, the Land Record arrangements of that district having been dislocated in consequence of the more urgent claims of Famine administration. I have since been directed to report as to the possibility of supplying earlier statistics of the summer sowings from year to year, and my views are embodied in the note that I submitted to the Famine Commission. Briefly speaking, my conclusion is that, owing to the size of the patwari circles, it would be impossible at present to insist on two annual field-to-field inspections in the Central Provinces, while such a special measure might be both necessary and expedient in abnormal years when the agricultural operations of sowing, transplantation or *byasi* were seriously impeded by a markedly deficient or late arriving monsoon. Other modifications of existing practice were also suggested, but these being of minor importance need not be described until they are accepted by the Administration.

15. *Working of the Land Record Staff.*—In some Provinces, *e.g.*, Burma, the working of the Land Record Staff is dealt with in a separate report on the Revenue Administration; but this is not the case in the Central Provinces, and this subject can, I think, be most conveniently treated in this section.

16. *Discipline of the Staff.*—The prescribed tabular statement is appended to this report. In considering the punishment-roll, the very special circumstances of the year have to be considered. An enormous amount of extra work has been thrown on the Land Record Staff by the famine, and the strain upon the Department has been very great, especially in the Jubbulpore Division, Raipur, Bilaspur and Balaghat. Where the famine was most acute, the ordinary duties of the staff must at least have trebled. The distribution of village relief has entailed constant revision of the lists of paupers under Section 34 of the Famine Code, and frequent periodic visits to all villages in a man's charge. The staff has been repeatedly called upon for statistics touching food-stocks and many varied matters. For instance, the decision of the extent to which suspensions and remissions of revenue were necessitated, was much facilitated by specially prepared statements regarding crop areas and outturns which had to be separately compiled for areas variously affected. In the rice districts there has been great activity in the construction of tanks with the aid of Land Improvement or Special Famine loans, and it has devolved upon the members of the Land Record Staff to list all possible improvements, foster applications, prepare the cases preparatory to the grant of advances, assist in the doling out of instalments, measure work done and ascertain that the rates paid to the labourers were fair and that undue advantage was not taken of their necessities. The distribution of Taccavi and Indian Famine Charitable Relief moneys has been effected almost entirely, but of course after due check, on the basis of lists of deserving cases drawn up by patwaris and Revenue Inspectors. Further lists of necessitous kotwars requiring special allowances from Government were prepared in this Department. This brief outline will suffice to show the varied duties and responsibilities that fall upon the Land Record Staff in times of scarcity and famine, and it is instructive to consider how powerless to cope with the situation the District Administration would have been, had this calamity come upon it ten or twelve years ago before the machinery of this Department was duly organized and the staff properly trained. The prescience of former Administrators, such as Sir Edward Buck, deserves more than a passing word of recognition in this connection, and it may be accepted that the Department has fully justified its existence by the very great assistance that it has afforded to the agricultural community during the past year of grievous trial and affliction.

The Deputy Commissioners of the Jubbulpore Division have gratefully acknowledged the services of their subordinates in this Department. The Commissioner of the Nerbudda Division writes: "It is difficult to speak too highly of their services" and characterizes them as "an admirable body of public servants."

The Deputy Commissioner of Chanda writes: "that he is greatly indebted to Mr. Chhote Lal, Assistant Settlement Officer, and the whole of the Land Record Staff for their admirable work in connection with the administration of village relief and distribution of seed and clothing."

The Deputy Commissioners of Raipur and Bilaspur mention the good work of the majority of their Revenue Inspectors and the patwaris of Sambalpur are described as "a hardworking and well-behaved set of men."

A discordant note, however, comes from Balaghat, and it is well known that matters in Mandla have not been altogether satisfactory. The physical features of these districts render due control of the staff a matter of greater difficulty than elsewhere; the climate is also malarious, but the reasons for the comparative failure in these districts are not far to seek. When transferring the Land Record Staff in Balaghat from the Settlement Officer to the Deputy Commissioner, I placed at the disposal of the latter Officer an Assistant Settlement Superintendent to aid in the work of supervision, but he was immediately tied down to a corner of the district and placed in charge of tank construction. The best Revenue Inspector of the district was also placed on deputation as a Naib-Tahsildar. The district has only four permanent Revenue Inspectors, but four more were transferred from Nagpur and Wardha who suffered somewhat in health, but in common with the promoted patwaris who had charge of the remaining circles, would have done better had the supervision been closer as I had intended. The strain came upon the Mandla Land Record Staff at an awkward juncture, *i.e.*, on the completion of the survey before it had settled down to its Land Record duties. The staff of patwaris had just been raised from 114 to 144, and two new Inspectors had been sanctioned. Another element of dislocation was the appointment of 18 patwaris to the charge of relief centres to the detriment of their peripatetic work. The annual field-to-field inspection was in consequence much hampered and delayed. Later on in the year, 13 patwaris were promoted as additional Revenue Inspectors and in this way almost one-fourth of the village accountants were practically removed from their duties, at a time when competent substitutes were not forthcoming in adequate numbers.

17. The Superintendents and Assistant Superintendents of Land Records have almost invariably given satisfaction and a great mass of extra work in connection with Revenue administration has been thrown upon their shoulders over and above the duties enumerated in the Famine Code and Revenue Book Circular III-1. Where there has been a failure to supply prescribed statistics in due time, the reason has generally been as in Mandla that their staff has been diverted to other duties, or that they themselves have been tied down as in Seoni, Jubbulpore and Bhandara on relief works, or in other ways unrecognized in Circular Orders or the Famine Code whereby the peripatetic character of their appointments was altered, and they were prevented from duly supervising their scattered establishments. There is a marked tendency in some districts to employ the Superintendents on miscellaneous revenue work, for which they may be well fitted by their previous training, *e.g.*, the Superintendent of Land Records of Mandla has during the field season of 1897-98, spent only one-third of his time in camp. But it is to be apprehended if this disposition is not promptly checked, that the proper upkeep of the maps and the due maintenance of the records will be adversely affected. Recent inspections by the Assistant Settlement Commissioner and myself have shown that map correction is being neglected, especially in the northern districts. Some such deterioration is, I admit, to be expected in times of famine, when the energies of the staff are devoted to the primary object of preserving life; but it is now absolutely necessary that the attention of all Superintendents should be concentrated on their ordinary Land Record duties as defined in Revenue Book Circular III-1, if the Department is to be maintained in a due state of efficiency. Too much stress cannot, I think, be laid on the necessity of close and sustained supervision by the superior staff of a Department so scattered over the entire face of the country, and it has to be remembered that if the maps are not properly maintained, we lose the basis not only of all Land Record Administration, but also of subsequent settlements. Such a sacrifice would be a suicidal policy, and would entail enormous expenditure on resurveys whereby one of the principal objects of the founders of the Land Record system would be defeated. I have therefore ventured to bring this matter prominently to the notice of the Chief Commissioner, and in this connection would beg to invite a perusal of paras. 5 and 11 of the second Resolution of the series of eight issued by the Government of India in the Revenue and Agricultural Department as No. $\frac{3}{39\text{-}I}$, dated the 20th March 1897.

18. The number of punishments inflicted on Revenue Inspectors is larger than desirable, but it has to be borne in mind that at the commencement of the famine some 20 or 25 of the best Inspectors out of a staff of 176 were placed on deputation as Naib-Tahsildars under the Civil Administration or the Department of Public Works, and that relatively inferior substitutes took their places. In all 68 punishments were inflicted, against 41 in the previous year. The increase is largely accounted for in Balaghat and Wardha, where a large number of the penalties were inflicted on merely acting men who have not as yet any permanent status as Revenue Inspectors.

19. Although a large number of the patwaris have admittedly rendered great assistance in this year of stress, it has been necessary as the figures in the appended statement shew to inflict a large number of punishments. Without the observance of strict discipline, Famine administration is not possible. Promptitude is all-important, and delays in the observance of orders involve frequently a loss of life. The punishment-roll is for all that regrettably large, even when all allowance is made for the very large number of casual substitutes who were appointed to the charge of circles in place of men who were deputed as Additional Revenue Inspectors to reinforce the overworked Inspecting staff. The total number of patwaris is 4,687. There have been 145 dismissals, while 37 men have been degraded, 47 suspended and 8 transferred. Fines to the number of 1,120 have been inflicted. Raipur maintains its unenviable reputation at the head of the list. Several of the dismissals have unfortunately been in connection with the embezzlement or extortion of moneys belonging to the Indian Famine Charitable Relief Fund. The ordinary *modus operandi* was apparently for the patwari to demand a few annas in the rupee from each recipient of the Mansion House Fund by way of consideration for bringing his name on the list. The moral sense of the country is not apparently revolted by such inroads even on charitable moneys. The toll would seem to be viewed in the light of a broker's legitimate commission for service rendered. As long as these views prevail amongst the literate portion of the community, the administration of relief to the famine-stricken must continue a task of extraordinary difficulty in this country. But the fact that so many offenders were detected and punished, indicates the closeness of the supervision that was exercised by the superior staff over their Famine charges.

20. In considering the work done by the malguzari patwaris with whom are classed the zamindari patwaris of Balaghat and Bhandara, I would group the districts according as they are :—

(*a*) under assessment with cadastral survey complete ;

(*b*) under the ordinary rules with settlement completed.

Class A—Includes Betul, Nimar, Seoni, Bhandara and Balaghat and, for a portion of the year, Saugor.

Class B.—All other districts.

In view of the fact that Land Record Administration proper has occupied so subordinate a part in the annals of the year, I propose to confine my remarks to the smallest compass.

21. *Residence of Patwaris.*—The enforcement of actual residence by patwaris along with their families has of necessity received less attention in most districts than usual. The number of temporary men acting for regular incumbents has also affected the returns. But although the patwaris may not have been properly resident in the technical sense, the closeness of the supervision by the numerous additional officers deputed on Famine duty, has doubtless greatly diminished their opportunities for absence without leave from their circles, and rapid detection has acted as a wholesome deterrent.

The increase in non-residence in Jubbulpore and Bilaspur is due to the fact that the men appointed in place of those dismissed for peculation have not as yet taken up permanent residence. A similar feature in Hoshangabad is due to reorganization of *halkabandi* arrangements, which has necessitated the transfer of certain men with money-lending connections from their old circles. A failure to collect local dues has also left the patwaris without the necessary funds to construct new houses.

The figures in Betul are abnormal, but this district is under settlement and rapid improvement may be anticipated on its close. The same remarks apply to Bhandara and Balaghat, where the percentages of non-residence are high. The absence of improvement in Nagpur is due to the appointment of 11 new patwaris in pursuance of the revised scheme newly sanctioned for this district.

Now that the famine is over, and we are returning to normal conditions, this important matter should receive sustained attention.

22. *Degree of Punctuality observed in filing papers.*—The extent to which punctuality was observed in filing the principal village returns, is indicated in Statement J. Considering the circumstances of the season, the results are, in my opinion, decidedly creditable. *Jinswar* and *milan-khasras* were filed, on the whole, with commendable promptitude. Mandla was late for the reasons given in a previous paragraph. Seoni and Bhandara belong to Class A, where the observance of punctuality is difficult owing to the conflicting claims of Settlement work. The Chanda figures were delayed in consequence of the weakness of the Sironcha staff, but the unpunctuality in Nagpur is *primâ facie* inexcusable, and has not, I understand, been permitted to recur this year. This unsatisfactory feature may possibly be attributable to the transfer of Inspectors to strengthen the Balaghat staff. The delay in Raipur was occasioned by the renumbering of the Drug maps which operation was not complete when the famine broke out.

There was more delay in filing the *jamabandis*, but in districts like Bilaspur and Mandla, the strain on the staff in connection with the administration of village relief was so great, that it is difficult to assign blame on this account.

23. *Testing of Village papers.*—I pass on now to consider the extent to which village papers were tested, and append the usual statement contrasting the amount of check in the twelve districts of Class B.

District.	Percentage of khasra entries checked by Inspectors.	AMOUNT OF TESTING EFFECTED BY					
		Superintendent and Assistant Superintendent of Land Records.		Tahsildars.		Deputy Commissioners and Assistant Commissioners.	
		Number of		*Number of*		*Number of*	
		Villages.	Entries.	Villages.	Entries.	Villages.	Entries.
Damoh	10	269	5,405	187	2,485	...	...
Jubbulpore	7	302	8,207	45	1,583	...	...
Mandla	6	135	3,133	...	...	...	...
Narsinghpur	12	710	10,782	57	914	9	247
Hoshangabad	15	587	13,166	155	2,022	...	...
Chhindwara	12	305	4,343	729	2,909	13	113
Wardha	19	548	9,918	239	2,284	58	289
Nagpur	15	500	5,289	111	1,321	17	260
Chanda	15	664	12,550	96	2,139	366	2,003
Raipur	7	904	19,584	50	2,299	7	257
Bilaspur	7	823	39,408	...	6,174	27	557
Sambalpur	8	476	7,857	37	661	...	...

Revenue Inspectors have done well on the whole, although the percentage of check has fallen in districts, such as Jubbulpore (11 to 7), Narsinghpur (15 to 12), Raipur (12 to 7), and Bilaspur (11 to 7). Better results could not, I think, have been reasonably expected. The Superintendent of Land Records of Mandla has done an inadequate amount of work, but I am not clear that any blame attaches to him on this account, while the Superintendent of Jubbulpore and his Assistant have checked only 8,207 entries in 302 villages against 13,360 in 521 villages in the previous year. This result is not surprising in view of the fact that both officers were placed for a time in charge of relief works. There is a general consensus of opinion that Tahsildars did as much as could be expected of them, having regard to the multifarious extra duties that the famine imposed upon them, and I am not prepared to question this conclusion. The differences between district and district are, however, very marked, and it is not altogether clear why the Tahsildars of Saugor and Damoh could contribute some work in this line, while in Seoni, for instance, nothing was done. Possibly the explanation may lie in the fact that establishments were strengthened early in the day in the two former districts, while the necessity of granting similar assistance was not recognized until later on in Seoni. My recent visit to the latter district has, however, indicated that the Tahsildars are not alive to their responsibilities in this connection, and the matter has accordingly been brought to the notice of the Divisional Commissioner. If the Nagpur and Chanda figures be contrasted with those of Wardha, it becomes apparent that the Tahsildars and their Naibs have done an inadequate amount of work in the two former districts. The assistance accorded by the Tahsildar of Arvi, Mr. Dhundiraj Janardhan, in all matters affecting Land Record administration, is deserving of special mention. He checked over 1,000 numbers in about 120 villages; and if this be accepted as a guide to what can be done in the Nagpur country by an ordinary active Tahsildar, it is clear that in normal years much more may be expected from Tahsildars and their Naibs in the future than has been accomplished in the past.

Judging from the number of entries shown against Bilaspur, a fair outturn has been attained. But having regard to the number of entries (2,909) tested in Chhindwara, the number of villages (729) would appear to be wrong. The Deputy Commissioner will be asked to verify these figures. Deputy Commissioners and their Assistants have done very little in this line during the year under report. The exigencies of Famine administration explain this feature of the 366 villages and 2,003 entries shown against Chanda. Mr. Chhote Lal, Assistant Settlement Officer, accounted for 362 villages and 1,732 entries; some testing might presumably have been done in Sambalpur, but the Commissioner explains that the Deputy Commissioner was short-handed. The Deputy Commissioners of Raipur and Bilaspur did some testing, but lost the record of the same. It is most desirable that a careful record should be kept by all officers of all testings of patwaris' papers.

24. *Jamabandi Testing by Kanungoes.*—Kanungoes have checked only two-thirds the number of *jamabandi* entries that they tested in the previous year. They likewise are alleged to have participated in the extra work caused by the famine. The percentage of incorrect entries to number tested has fallen from 2·13 to 1·27. In the concluding portion of para. 26 of my Report for 1895-96, I promised a further explanation of the marked differences in the percentage of errors discovered by kanungoes in the districts of Wardha, Nagpur and Nimar. The matter has been further examined by the Assistant Settlement Commissioner, and it would appear that whereas the variations are in a measure attributable to the idiosyncrasies of individual kanungoes, still the varying efficiency of Land Record administration goes far towards accounting for them. The Land Record staff of Wardha had settled down to its Land Record duties, and the *jamabandis* were carefully compared with the *khasras* by the patwaris and Revenue Inspectors at a time when the attention of the Superior Officers of the Nagpur Land Record Staff was largely devoted to the winding up of the Settlement. This year the percentage in Nagpur has fallen from 9·15 to 3·61. In Chanda the figure is still high, which I would attribute to the fact that the staff of Revenue Inspectors in this district is not equal to its requirements.

25. *Condition of Boundary Marks and Village Maps.*—The condition of boundary marks appears satisfactory in most districts, but in the Sohagpur tahsil of Hoshangabad they are reported to have been neglected, and the Deputy Commissioner has promised to take necessary action. Little could be done in the year under report to replace defaced traces, as the patwaris could not be summoned from their circles to head-quarters during the monsoon. This matter will doubtless receive more attention during the current year. The Deputy Commissioner of Sambalpur has not yet reported further on the scheme for permanently demarcating the boundaries of fields alluded to in para. 29 of my last year's report. He will be reminded.

26. *Training of Patwaris.*—The training of the patwari staff in the districts not under Settlement, should also be taken up systematically in the approaching monsoon. Not only should the patwaris newly entertained in place of dismissed incumbents be carefully instructed in surveying, area calculation, *khasra* writing, &c., but in each district a sufficient number of candidates should be efficiently trained so as to take up any vacancies as they occur from time to time. The experience of the past year has shown this step to be absolutely indispensable to the maintenance of the staff in due efficiency. In districts under Settlement, similar action should be taken by Settlement Officers. The need of ready-trained substitutes has hampered the Settlement and map amendment operations in Raipur and Bilaspur during the past season.

27. *Patwari Fund.*—The condition of the Patwari Fund was separately reported upon in this office letter No. 4357—63, dated 16th November 1897. During the famine year there has been much extra expenditure in connection with additional establishments and compensations to patwaris for the failure to collect their local dues. At the same time the annual income has been seriously curtailed owing to remissions and suspensions, and it is apprehended that the provincial balance has much contracted, which may hamper the introduction of necessary improvements in the future. But the exact position of affairs will not be known until final figures for the year ending 31st March 1898, are available.

The compensation sanctioned by the Administration for failure to collect local dues and to the Chhattisgarh patwaris in consideration of high prices, was as follows:—

					Rs.	a.	p.
Saugor	...	...	...	...	5,009	7	0
Narsinghpur	...	...	...	...	8,781	6	0
Hoshangabad	...	...	...	...	1,618	0	0
Damoh	...	...	...	...	4,687	0	0
Jubbulpore	...	...	...	...	2,937	2	11
Raipur	...	...	...	...	8,465	8	0
Bilaspur	...	...	...	...	1,765	2	8
			Total	...	33,263	10	7

28. *Enumeration of Live-stock and Registration of Cattle Disease.*—Under Patwari Rule LXIII-A, patwaris have for the past few years returned the number of village live-stock in a form termed the "*Titamma milan-khasra.*" This enumeration becomes more complete and accurate from year to year, and will shortly afford a sound basis for any contrast that may be undertaken with a view to discover the extent of cattle mortality. But the cause of the mortality will remain in doubt until registration of deaths from the various diseases is undertaken. The figures now submitted in regard to such losses are obtained from the Police through kotwars, and it is clear, as remarked by several Deputy Commissioners, that they can lay little claim to accuracy. Rule XXVII of the Patwari Rules provides for the registration of deaths from any specified cattle-disease when patwaris are so ordered by the Deputy Commissioner. Such registration has only taken place in the past in a few instances when epidemic disease was rife, but in several districts, *e.g.*,

Nagpur and Balaghat, the regular registration of all cattle-disease is now contemplated. In a few districts, such as Wardha and Hoshangabad, the cattle mortality of the year has been high, the animals having lost condition, owing to want of fodder, and fallen a ready prey to disease ; but the season has, on the whole, been singularly healthy for a famine year, especially in districts which were favoured by the cold-weather showers, and as remarked by the Deputy Commissioner of Seoni, we have "the apparent anomaly of a famine year in which the rainfall was above average and the country green and unparched through the hot weather." "But," writes the Deputy Commissioner of Bilaspur, "if the season was merciful to cattle man was not." Large numbers of cattle were slaughtered by the *Chamars* for the sake of their hides, both in this district and Raipur, where this cause of mortality is termed "*chamarrog*." The Gonds have also freely killed and consumed their cattle. It is probable then that the live-stock has considerably decreased during the famine year in spite of the general absence of disease.

During the period under report an *addendum* has been issued to Revenue Book Circular IV-7, under which .Tahsildars are enjoined to report promptly the outbreak of cattle-disease, a copy of the report being sent direct to the Superintendent, Civil Veterinary Department, who, if the outbreak is of serious character, will proceed to the scene without delay.

29. *Sanads for improvements.*—The construction of agricultural improvements that qualify for the issue of a *sanad* is one of the matters that Revenue Inspectors should report to the Deputy Commissioner through the Tahsildars to whom they are subordinate. But the Land Record Staff was so absorbed in Famine administration, that this branch of their duties appears to have been somewhat neglected, or indeed the paucity of improvements may be attributed to the want of funds until Government came to the assistance of the agriculturists with advances under the Land Improvement Loans Act and special Famine Loans, a feature of which was the remission of interest as also of a portion of the principal representing the inefficiency of famine labour.

The number of *sanads* issued during the year is as follows :—

Mandla	...	...	...	...	1
Seoni	...	...	...	...	2
Narsinghpur	...	...	...	...	1
Nimar	...	...	...	...	15
Betul	...	...	...	...	2
Wardha	...	...	...	...	27
Chanda	...	...	...	...	12
Bilaspur	...	...	...	...	7
Sambalpur	...	...	...	...	4
				Total ...	71

It is recognized in most reports that many improvements have been effected during the famine, and steps are being taken in the Nagpur and Chhattisgarh Divisions to collect the necessary information in view to the early issue of *sanads* during the current year. I have recently invited the attention of the Settlement Officer, Seoni, to this matter, and would add that the Deputy Commissioner of Damoh would do well to start his enquiries without waiting for applications from malguzars. Last January, when touring in Bilaspur, several malguzars showed me *sanads* they had received from Mr. Low, Assistant Commissioner, for improvements carried out during the famine year. The care with which these papers were wrapped up, indicated the value set upon them by their owners, and it would be a politic act to issue *sanads* promptly to all persons who have earned them by the construction during the famine year of substantial improvements that qualify for exemption from assessment.

SECTION III.

Utilization of Land Records.

30. *Circle Note-Books.*—In accordance with the recommendations of the Agricultural Conference held in March 1896, the introduction and maintenance of a circle note-book in the marginally noted districts was prescribed in Revenue Department Circular letter No. 4560, dated 16th October 1897. These circle note-books are to be maintained in addition to and not in supersession of the village note-book prescribed under existing orders. In the districts of Nimar, Seoni, Betul, Bhandara and Balaghat, where Settlement operations are now in progress, it will devolve upon the Settlement Officers to obtain the books and have the headings and initial entries duly filled up by the time that their operations are brought to a close.

Nagpur.	Hoshangabad.
Wardha.	Damoh.
Sambalpur.	Jubbulpore.
Chhindwara.	Saugor.
Narsinghpur.	

In the districts of Raipur, Chanda, Bilaspur and Mandla, no action is to be taken until after the next ensuing Settlement. The matter is now engaging attention in the various districts, the necessary forms having been obtained through the Comptroller of Stationery, Central Provinces.

31. *Village Note-Books.*—The inspection of these books has taken up much of the time of the Assistant Settlement Commissioner and myself during our recent tours. It may be stated generally and, subject to certain important exceptions, that the maintenance of these useful books is not so much neglected as it was in the past, *i.e.*, the entries are more punctually entered up from year to year, but the character of the entries leaves very much to be desired. In most districts the books teem with errors, and discrepancies are made apparent which do not exist in fact. For instance, during my tour this season, I do not think I came across a single note-book in the Mungeli tahsil of Bilaspur which had not several errors that were on the face of it quite palpable. Owing to the cessation of the famine the Tahsildars have more leisure this year, and I have been enabled to instruct a number of them and their Naibs as to the maintenance of village note-books in the Nagpur, Wardha, Chanda, Bhandara, Raipur, Bilaspur, Balaghat and Seoni districts. I am hopeful that I may soon be able to report some improvement in this respect, but I hold it very expedient that our young Covenanted Assistants should be instructed by their Deputy Commissioners as to the uses which these books are intended to fill, as to the purport of the various figures, and in regard to the system on which they are annually written up. There is to my mind no better way of infusing into our young officers an interest in their revenue work than to show them how to intelligently gather from the note-books of various villages the lessons that the figures are calculated to convey. I have been able to do a little in this line this past season, but my opportunities are not great, as so much of my time in the field season is taken up in districts under Settlement. Until all Revenue Officers from Deputy Commissioners down to Naib-Tahsildars make a point of examining the note-books of the various villages they traverse during the course of their tours, but little real progress is to be anticipated. In view of these considerations I have recently addressed a Land Record Circular No. 31, dated 15th February 1898, to all Deputy Commissioners, inviting the co-operation of all Revenue Officers, and at the same time insisting on Superintendents of Land Records and Revenue Inspectors testing the various entries and reporting errors and omissions to the kanungo through the Tahsildar for rectification when the books are next returned to the Tahsili.

The work of many kanungoes is, I regret to say, very perfunctory and wanting in intelligence. They do not understand the headings of their statistical registers and make the most extraordinary blunders in filling up the note-books therefrom. A greater knowledge of Land Record procedure seems essential and were the posts of sufficient value to some of our Revenue Inspectors, I should recommend that no

one who had not served an apprenticeship in this line should be appointed to this post. At present the personal claims of individuals are too often permitted to outweigh those of efficiency, whereas the former should be held in strict subservience, especially when they are not hereditary. It was part of Sir Edward Buck's scheme to raise the status of kanungoes, and I should this year have submitted some proposals on this head to the Chief Commissioner, but for my apprehensions that the Patwari Fund has been temporarily crippled owing to the additional expenditure and reduced income occasioned by the outbreak of famine. As matters stand, it may be the best plan to enjoin that no one should be appointed otherwise than temporarily to the office of kanungo who has not proved to the satisfaction of the Assistant Settlement Commissioner that he has a fair knowledge of Land Record procedure. This would enable this department to reject nominees who could not be trusted to keep up properly the statistical registers and village note-books, and to check *jamabandis* with some intelligence.

Owing to the extra work entailed by the famine, there has been considerable delay this season in many tahsils in writing up the note-books. I am now in receipt of monthly work returns from the districts of Chanda, Nagpur, Bhandara and Saugor, and arrears should shortly be worked off. The very unsatisfactory condition of the village note-books in Jubbulpore has recently engaged the attention of the Commissioner of the Division, a copy of whose orders was communicated to this office by the Deputy Commissioner, when I addressed him on receipt of the Assistant Settlement Commissioner's inspection memorandum of the Jubbulpore district. Mr. Fuller has pointed out that "there is no record of those maintained by us which is of more assistance to inspecting officers," and the Deputy Commissioner has promised to undertake a systematic revision during the rains.

In the Nerbudda Divisional Report it is stated that there is much delay on the part of the Police in Narsinghpur and Chhindwara in forwarding these note-books to the Tahsili. Mr. Ryves considers that it would conduce to punctuality if these books were maintained in two parts: one for Revenue, and the other for Police statistics. The Commissioner of the Nerbudda Division, however, holds "that the best remedy lies *not* in splitting up the books into two volumes, but in enforcing punctuality on the part of the Police. To attain this end Mr. Laurie suggests that a weekly progress report should be submitted by the Police and the kanungo to the Deputy Commissioner until the work is completed in their several departments. This I regard as an excellent suggestion, and I should be glad to see it carried out in all districts. While on this subject I would note that the utility of these books and of the kanungoe's statistical registers is being clearly brought out this year in connection with the question of granting suspensions and remissions of land revenue. These registers when duly maintained afford clear indications of agricultural deterioration, and the speedy detection of the same enables prompt and therefore useful action to be taken. I came across such cases in Wardha, Seoni and Bilaspur, and brought them to the notice of the local authorities.

32. *Famine Note-Books.*—The famine note-books for the two remaining tahsils of the Saugor district, *viz.*, Banda and Saugor, have been written up and sent to the District Office. In Seoni entries have been made against 175 villages of the Lakhnadon tahsil, which were attested and inspected last season. The Settlement Officer of Nimar has written up the famine note-books for 334 villages, comprising 7 groups. The matter was lost sight of in Betul, but is now being attended to. In Bhandara the Settlement Officer has written notes for most of the zamindari villages in Deori and Chichgarh, and also for a number of villages in the Tirora tahsil. Nothing was done last rains in Balaghat. I have asked Mr. Scott to see that the books are punctually written up. It seems probable that on the issue of the report by the Famine Commission of 1898, Deputy Commissioners will be required to overhaul these note-books and bring them up to date, for many of the improvements therein listed may have been carried out during the recent famine. In anticipation of such action being necessary, I have instructed the Settlement Officers of Raipur and Chanda to make lists of possible improvements in the course of attestation.

The Deputy Commissioner of Wardha recently represented that the form for the entry of statistical information given at the head of the village note-book was not altogether suited to the agricultural conditions of his district, inasmuch as embankment of land for rice and tank irrigation were little practised, while wheat cultivation was quite insignificant in the Arvi tahsil, where juar and cotton were the chief staples.

The selection of useful improvements in a district like Wardha is certainly a matter of difficulty, and after discussing the matter with Mr. Mayes we came to the conclusion that the headings to the form could not with advantage be altered. It was also ascertained that Mr. Craddock had adopted the prescribed form without alteration in the Katol tahsil of Nagpur,—a similar tract. We decided, moreover, that the classes of improvements to which attention should be devoted in Wardha were mainly as follows:—

(i) in the north of the district the increase of the irrigable area from wells;

(ii) the clearing of stones off fields and heaping them round on the sides by way of an embankment so as to prevent erosion;

(iii) the clearing of scrub-jungle off waste land.

In communicating the results of our interview to Mr. Mayes' successor in office, I took the opportunity of suggesting to him the advisability of starting an experiment of embanking land for wheat cultivation in any of the estates under Government management in order to solve the question as to whether it would pay in Wardha to embank land for this purpose.

The Deputy Commissioner reports that he had started work in some fields in the Nachangaon estate which is under Government management, and promised to inform me of the result of experiment after the harvest of 1898. This communication is now awaited.

33. *Action of the Land Record Department in connection with suspension of rent and revenue in case of serious damage to crops by hail.*—On the 21st January 1897, a very severe hail-storm visited the Seoni district, and the members of the Land Record Department proceeded promptly to carry out the procedure enjoined in Revenue Book Circular I-9. It was discovered that 99 villages had been affected. In 30 the damage amounted to 14 annas in the rupee, in 26 it ranged between 6 and 8 and in the remaining 43 villages it was below 6 annas. Suspensions were, however, granted in only 13 villages.

I recently traversed Mauza Lugarwara of the Seoni tahsil, and, on enquiry, learnt that whereas 586 out of 600 acres under *rabi* had been damaged to the extent of 14 annas, no revenue suspension was granted. The malguzar had, however, been unable to collect any rents. The Deputy Commissioner, to whom the matter was referred, replied that the case of Lugarwara was considered at the time the suspensions were granted and did not appear to call for suspension, and added that "the malguzar could have appealed to the Commissioner, and he was not aware that he had done so." Now this appears to me a wrong conception of revenue procedure, however suitable it may be in civil or criminal matters, and the terms of para. 4 of Revenue Book Circular I-9 lend support to this view. Calamities such as these destructive hail-storms impoverish our malguzars, and, unless assistance is afforded on the initiative of the District Officers in the shape of revenue suspensions, tend to accelerate the transfer of villages from agriculturists to the money-lending classes which it is the declared policy of the Government of India and of the Central Provinces Administration to prevent as far as possible. It is not too late to assist this man and any others similarly circumstanced, and I would recommend that the case be reconsidered, and a concession granted on this year's revenue with a corresponding reduction of rental.

SECTION IV.

Scientific and National Enquiry under Imperial Control.

34. Of the Imperial departments referred to in Resolution No. IV of the Government of India, the Land Record Department in the Central Provinces may be said to have co-operated with the following :—

(1) The Survey Department.

(2) The Meteorological Department.

(3) The Department under the Reporter on Economic Products.

(4) The Civil Veterinary Department.

(5) The Department of Agricultural Chemistry.

(6) The Statistical Department.

Co-operation with Survey Department.

35. The surveys of the Chhattisgarh and Chanda zamindaris have been vigorously prosecuted to practical completion; and in Chanda very good progress has been made which is detailed in my Settlement Progress Report for 1896-97. The amendment of the maps of the Raipur and Mungeli tahsils has lately been undertaken so that they may serve as a basis for revision of assessment.

36. In Secretariat letter No. 4310, dated 12th November 1896, this office was instructed to assist in the preparation of the revised edition of topographical maps by communicating to the Deputy Surveyor-General important changes that had taken place in the face of the country during latter years and which were brought to light for the first time in recent cadastral surveys. Further, in view of the transfer of a portion of the Hoshangabad district to Nimar to form the Harsud tahsil, I was instructed to indicate the changes that had taken place in the boundaries of the Nimar and Hoshangabad districts, also in the administrative distribution of forests; and further, to locate the new villages carved out of the forest for Settlement in ryotwari fashion. Before the receipt of this letter action on these lines had been taken in some districts in pursuance of an arrangement arrived at in 1894 between Mr. Craddock, who was then acting as Director of Land Records and Agriculture and the Deputy Surveyor-General. It was, however, decided on that occasion that revision should be postponed pending the re-opening of Settlement operations in the marginally-noted districts. In regard to Wardha, however, the Deputy Commissioner of that district has been informed on a recent reference that traces can be sent to Calcutta after the necessary comparison has been effected by a trained draughtsman if the Deputy Commissioner will undertake to have him effectively supervised. The position of affairs in the remaining districts is as follows :—

1. Damoh.
2. Jubbulpore.
3. Narsinghpur.
4. Wardha.
5. Raipur.
6. Bilaspur.
7. Sambalpur.

Saugor and Seoni.—Comparison completed, all changes have been communicated to the Deputy Surveyor-General and village traces sent.

Mandla.—Maps were sent last year to Calcutta after the field season, but had to be recalled as we had only one copy. The matter will be taken up again this year.

Hoshangabad.—The Hoshangabad traces, with the exception of the Harda tahsil, have all been sent. The Deputy Commissioner, Hoshangabad, has been asked why the Harda traces have not been sent, and when the memo. with traces will be sent to the Deputy Surveyor-General.

Betul and Nimar.—The work is proceeding as attestation progresses.

Chhindwara-Nagpur.—Completed.

Bhandara.—Traces of villages in the Bhandara and Tirora tahsils sent to the Deputy Surveyor-General, but not those of the Sakoli tahsil, where the comparison between the 16″ maps and the topographic survey is in progress.

Balaghat.—The Settlement Officer has been asked to report progress.

Chanda.—The Deputy Surveyor-General has agreed that owing to gaps nothing further can be done.

Raipur-Bilaspur.—Necessary instructions will now be issued to the Settlement Officer, Raipur, and the Drug tahsil maps will be taken up when attestation is complete.

Co-operation with Meteorological Department.

37. The rainfall statistics of the Province are compiled in the Office of Director of Land Records and regularly transmitted to the Meteorological Reporter to the Government of India. A report on rainfall registration will be written this year in compliance with the *addendum* to Revenue Book Circular IV-1, dated the 3rd September 1897. Since the issue of these supplementary orders very numerous reports have been received in this office from Deputy Commissioners and their Assistants relating to the inspection of rain-gauge stations.

Path of Hail-storms.

38. In compliance with the instructions of the Government of India, reports on the occurrence of hail-storms in the undermentioned districts were obtained and submitted along with skeleton maps indicating the course of the storms and their approximate breadth to the Local Government for transmission to the Meteorological Reporter to the Government of India:—

Name of District.	Number of storms.	Date of occurrence.
1	2	3
Jubbulpore	1	29th December 1896.
Chhindwara	2	21st and 24th January 1897.
Seoni	1	21st January 1897.
Damoh	2	Ditto.

Action taken on requisitions of the Reporter on Economic Products.

39. The following statement gives a list of the various economic products collected for and supplied to the Reporter on Economic Products for the Indian Museum and Imperial Institute, London:—

Name.		Parts collected.	Whence obtained.
Botanical.	Vernacular.		
(1) Æschynomene aspera (Sola-pith).	Bhend ...	Botanical specimens ...	Chanda and Sambalpur.
		Dried stems of the different varieties.	Chanda, Hoshangabad, Betul, Saugor, Sambalpur and Jubbulpore.
		Specimens of objects made of Sola-pith	Chanda, Sambalpur, Saugor and Jubbulpore.
(2) Cyperus pertennis ...	Nagarmoti ...	Botanical specimens and roots	Wardha, Sambalpur, Chanda and Nagpur.
(3) Curanna zedsaria ...	Kachora ...		
(4) Ventilago Madras patna	Keoti ...		
(5) Bixa orellana Arnotto dye.	Ghound, Jhapda, Bilati Jafran.	Botanical specimens, pods, seeds, mordants, cloth dyed with the dye, bark, fibre, rope.	Nagpur, Chhindwara, Sambalpur and Raipur.
(6) Coix lachryma (Job's-tears).	Jobi ...	Seeds, cylindrical form, seeds pear-shaped and spheroidal forms.	Sambalpur.
		Necklace	Ditto.
		Ditto	Betul.

The Settlement Officers of Betul, Balaghat and Nimar have been asked to furnish botanical specimens of *Cassia auriculata* (Deo-torota), and to supplement the information regarding the tanning properties of the plant furnished by Forest Officers.

Enquiries into the properties of the babul tree (*Acacia arabica*) were also instituted during the year and are still in progress.

40. In his capacity of Curator of the Economic and Art section of the Indian Museum, Dr. Watt requested this Department to furnish a representative collection of ornamental pottery with a few examples of the ordinary every-day articles in use in the Central Provinces with a view to illustrate the character of the workmanship and the shapes used by the leading tribes and communities. The Chief Commissioner has agreed to the free supply of this collection to the Calcutta Museum as a sort of advertisement of the minor industries of the country. A selection has accordingly been made with the assistance of the Provincial Monograph on pottery, and the collection is being sent by Deputy Commissioners direct to the Reporter.

In further illustration of the ceramic art a lump of each distinctive kind of clay used and a small quantity of each of the articles employed to colour or glaze the pottery is also being furnished.

41. The usual returns relating to the production of minerals were compiled in this office and submitted to the Reporter through the Provincial Secretariat.

Veterinary work—Horse-breeding.

42. The work of the Veterinary Department has been separately reported upon by Veterinary-Lieutenant Trydell, Superintendent, Civil Veterinary Department. His report was submitted with a review to the Chief Commissioner with this office letter No. 2451—119, dated 28th June 1897.

There are at present three horse stallions in the Provinces, two (Yakoob Khan and Shamsher) at Saugor and one (Sultan) at Narsinghpur, also a donkey stallion (Burj) at Saugor. Shamsher has been supplied to the Department on a year's credit by Veterinary-Colonel Queripel in place of Bin Ali recently sold.

The Damoh Stallion (Farmer Hodge) being too old for stud purposes was transferred to the Central Provinces Police on the 26th August 1897, in accordance with the orders of the Chief Commissioner. It is not intended to replace him at present. The usual statement showing the number of mares served by the horse and donkey stallion is given below:—

Statement showing the number of Local Government Stallions employed in the Central Provinces with the number of Mares served for the year ending 30th September 1897.

District.	Number of Stallions.	Number of days employed.	Number of mares served.	Remarks.
Saugor	2 horses ...	583	90	Stallion No. 1, Bin Ali, struck off the roll as sold on the 7th May 1897. From this date to the end of the year there was only one stallion employed as he was not replaced.
	1 donkey ...	365	46	
Narsinghpur ...	1 horse ...	365	22	
Damoh	1 do. ...	363	9	Stallion No. 4, Farmer Hodge, struck off the roll as transferred to the Central Provinces Police (for Police purposes) on the 29th September 1897, and was not replaced.
Total ...	4 horses ...	1,311	121	
	1 donkey ...	365	46	

The Narsinghpur stallion has not been utilized to the extent desirable, and the Superintendent, Civil Veterinary Department, recently enquired whether he could not be taken out into Camp by the Superintendent of Land Records. Before agreeing to remove the stallion from the charge of the Police, I consulted the

Deputy Commissioner, who states that the District Superintendent of Police has consented to take the animal with him on his tours. In reply to a requisition from the Superintendent, Civil Veterinary Department, the Deputy Commissioner, Narsinghpur, reports that enquiries made through his Superintendent, Land Records, and Revenue Inspectors, indicate that there are only 130 mares in the district fit to put the stallion to. It occurred to me that the Narsinghpur stallion might possibly find additional employment in the Seoni district. I accordingly requested the Settlement Officer to collect through the Land Record Staff information as to the number of suitable mares. His reply is not very satisfactory, as he reports that there are only 20 mares of the requisite size in the whole district.

At the instance of Mr. Trydell, the District Superintendent of Police, Saugor, is undertaking a census of mares through his subordinates with a view to determining whether any extension of horse and mule breeding in this district is possible, and whether any more stallions are required.

The Deputy Commissioner of Saugor and the Commissioner of the Jubbulpore Division have, on the suggestion of the Superintendent, Civil Veterinary Department, been consulted as to the feasibility of holding at Garhakota or elsewhere an annual Horse Fair.

Working of Veterinary Dispensaries.

43. There are now three Veterinary dispensaries in these Provinces; a dispensary having been established at Wardha on the 10th June 1897, in accordance with the scheme described in Chief Commissioner's Resolution No. 4116, dated 22nd October 1896.

The extent to which the dispensaries have been used by the public is shown by the following figures which are contrasted with those of the previous year :—

District.	Year ending 30th September 1897.	Number of cases treated.				Average daily attendance.	
		Horned cattle.	Horses.	Other animals.	Total.	1896-97.	1895-96.
Nagpur	...	3,954	724	462	4,240	19·	14·94
Raipur	...	994	465	366	1,825	17·67	17·56
Wardha *	...	20	84	8	112	5·35	...

* Opened on the 10th June 1897.

The daily attendance at the Nagpur and Raipur dispensaries improves each year slowly but steadily. To control the business of the Raipur Veterinary Dispensary a special Sub-Committee, consisting partly of members of the District Council, and partly of outsiders, has been nominated by the District Council, the Superintendent, Civil Veterinary Department being added as an *ex officio* member. The Commissioner adds, "The Committee has taken up its duties with some vigour, and the institution promises to be managed with considerably more efficiency than has hitherto been the case." In Wardha the local interest revoked is as yet small, but the Deputy Commissioner, Mr. Chitnavis, has promised to foster the institution.

Recruitment and Training of Veterinary Inspectors.

44. In accordance with the proposals laid before this Administration by the Inspector-General, Civil Veterinary Department, in his letter No. 209-C, dated 13th February 1897, and approved by the Chief Commissioner, two local candidates who had matriculated were selected by the Inspector-General of Education and myself, and deputed to the Ajmere Veterinary School for a two-years' course. Each student was granted a Scholarship of Rs.10 per mensem in addition to the payment of school-fees, railway fare to and fro, and free books. The students were guaranteed an appointment of Rs.25 per mensem as Veterinary Inspectors on qualifying with permission to take fees for private practice. The two candidates of 1897 were Marathi-speaking men from the south of the Provinces. This year an endeavour is being made to secure two

competent Hindustanis or Mussalmans from the north of the Provinces, as dispensaries should shortly be opened at Jubbulpore and Mandla, *i.e.*, as soon as funds become available.

Co-operation with the Statistical Department.

45. The agricultural statistics have been prepared as in previous years in this office and submitted to the Director-General of Statistics. With the completion of the zamindari survey our figures should shortly be fairly complete, but Feudatory States will still remain outside the scope of these returns. The quarterly and annual returns of rail-borne traffic were reviewed as usual, and submitted to the Statistical Bureau.

The only changes made in the character of the returns, are :—

(1) the exhibition of the trade in treasure ;

(2) the inclusion of traffic between Assam and the Central Provinces;

(3) the addition of the head Hemp and other fibres ;

(4) the alteration of the sub-head Aniline under Dyes and Tans to Alizarine and Aniline ; and,

(5) the exhibition of the trade in Iron and Steel under four specific sub-heads.

For local purposes the trade under Mahua is separately tabulated. The important subject of trade values has also received some attention. Registration of road traffic has been temporarily abandoned in consequence of the famine.

Crop Forecasts.

46. The usual forecasts for wheat, linseed, til and cotton have been submitted in the prescribed forms :—

In compliance with letter No. $\frac{14}{2\text{-A}-13}$, dated the 17th October 1896, from the Government of India in the Revenue and Agricultural Department, which pointed out that the mercantile and mill-owning communities were anxious that steps should be taken to secure greater accuracy and completeness in the figures for area and outturn of cotton received from local authorities and appended to the forecasts of the cotton crop in India and published by the Statistical Bureau, efforts are being made to obtain more accurate statistics,—*vide* this Office Circular letter No. $\frac{1724}{19}$, dated 20th April 1897. In the autumn of 1897 we had, in consequence of the famine, a special *kharif girdawari* for all crops. It will not, I think, be possible to insist on two annual field-to-field inspections throughout these Provinces, but a special *girdawari* to discover the cotton area may prove feasible in tracts like Nagpur, Wardha, Nimar and the Sausar tahsil of Chhindwara, where this crop is of importance. This will be tried.

It is notoriously difficult to conduct experimental harvestings in the case of cotton owing to the number of the pickings. But with the assistance of the patwaris something may be done in this line by Revenue Inspectors and the Superintendent of Land Records, and they have been enjoined to do so before sending up their final forecasts. These orders involve no risk of vitiating the averages afforded by the crop experiments conducted by selected officers from year to year, as the results will not be compiled. On the other hand, it is hoped that the association of the members of the Land Record Staff in this work will improve their knowledge in respect to the possible outturns of the various crops and render their crop estimates of more value than they are at present.

47. The quinquennial crop-cutting report was delayed owing to the famine, and it has only recently been compiled. It is now in the press and will shortly be submitted.

The number of crop-cutting experiments conducted during the year under report is larger than ever : 1,675 having been carried out as compared with 1,165 and 1,203 in the two previous years.

The extent to which the various classes of officers have contributed is as follows :—

Deputy Commissioners	...	...	... 47
Assistant Commissioners	...	...	... 87
Extra-Assistant Commissioners		...	... 727
		Total	... 861
Settlement Officers	...	...	... 73
Assistant Settlement Officers	...	...	... 741
		Total	... 841

The large number of experiments is due to the necessity of ascertaining to what extent the various crops failed in different parts of the Provinces. Of these crop-cuttings, 965 were made in *kharif* and 710 with *rabi* crops. Other experiments were also carried out by officers of inferior status, but these were not compiled. Such remarks as I have to offer regarding the conduct of these experiments, are embodied in the note accompanying the quinquennial review and need not be repeated here.

SECTION V.

Scientific and Local Enquiry under provincial direction.

Experimental Farm, Nagpur.

48. The Experimental Farm at Nagpur is the only one maintained in these Provinces. Mr. R. S. Joshi, who held charge of the Farm throughout the year, was assisted by an overseer, a jamadar and the ordinary establishment of ploughmen and menials. Mr. Joshi, in addition to his duties as Superintendent, looks after the Telinkheri reserve, is Principal of the Agricultural School and Curator of the Nagpur Museum. He is also for all practical purposes the scientific adviser to this Department. The circumstances of the year were generally adverse to the conduct of experiments, as indeed to the very existence of agriculture.

We have several experiments under the head of "Manure." Perhaps the most important is that which contrasts the effect on crops of box-dung with that produced by other manures. Box-dung contains the urine as well as the solid excrement of cattle, the former containing the larger proportion of fertilizing ingredients.

The advantages of box-dung have been brought out by seven years' experiments conducted with consistent results. But we have still to teach the people to conserve their liquid manure and prevent it from going to waste annually in the monsoon. Some assistance is required for the Court of Wards in making known and popularizing this system. The disposal of sewage on the Meagher system has received attention, and the system promises good results. The crop of juar obtained in the monsoon of 1897 from a field so manured was quite phenominal. Mr. Joshi has recently journeyed to Deoli in the Wardha district to explain the system to the Municipal Committee, and the Deputy Commissioner of Nagpur informs me that it is being tried in several of his minor municipalities.

An experiment has been conducted for some years with a view to discover what is the best time for manuring land for *rabi* crops, that is, June or August, when the heavy bursts of the monsoon are over and there is less chance of valuable nitrates being swept out of the reach of the crops. This year the experiment was not very successful, but there was a good reason for this. The rain ceased at the end of August and assimilation of the manurial ingredients by the crops was thereby impaired.

49. Several of the experiments are designed to investigate the nature of rust in wheat, or to discover a rust-proof variety. Mr. Joshi has also produced by cross-fertilization of haura with *mundia pissi*, which is reported fairly rust resistant, but not very marketable, a new variety of wheat which has yet to be tested, but which promises fairly well. He is proceeding on the lines laid down in the valuable pamphlet issued by Mr. Farrer

of New South Wales, Australia, many of whose cross-bred wheats are being tried on the Nagpur Farm. To quote Dr. Prain, "these wheats are of unfixed type, and it is precisely their mutability of character that constitutes their merit. They are not issued as fixed rust resistant varieties of wheat, but as the raw material from which such varieties may be selected, and out of which such varieties may be tried." Owing to the dry conditions of the past two or three seasons, there has been practically no rust, and these experiments will have to be persisted in for some years.

50. The effect of various phosphatic manures on oil-seeds is being tested at Dr. Leather's suggestion. Somewhat akin to this enquiry is an experiment suggested in the *American Agriculturist* in which leguminous crops are treated with potassic and phosphatic manures, leaving them to supply themselves with all they require in the way of nitrogen. We have also one experiment under the head of "Tillage" and several under "varieties of crops." Seven or eight varieties of cotton are being tried, and Cairo cotton is being experimented with under varied conditions. Jaunpur and Horse tooth maize have done well on the Farm and seed is being supplied to cultivators. Two methods of propagating sugar-cane known as *Top* and *set* planting have been contrasted. The former, which is the cheaper method, has shown a superiority. June experiments with rice have recently been started on the Farm, where hitherto this crop was not raised.

51. Circular letters are from time to time addressed to Deputy Commissioners invoking their assistance in testing on Court of Wards estates various suggested agricultural improvements, but there is as yet little response. In the first place, Revenue administration of the Central Provinces has been an arduous task during the past three or four years of agricultural depression, and Officers have had little or no leisure to devote to such subjects. Secondly, I am not sanguine that much progress will be attained in this respect until we have replaced our present staff of Managers and Assistant Managers by men who have passed successfully through the Nagpur Agricultural Class, or the Poona College of Science.

There appears to me no good reason why in course of time we should not recruit some men of practical ability and business qualifications who could successfully control a Court of Wards, and at the same time bring into play the scientific training that they have received.

This is to my mind the only way to carry experiments into private estates, and we are not likely to enlist the co-operation of native landowners until we can demonstrate in this way the advantages of new methods.

52. In February 1897 I traversed that portion of the Aser pargana that lies in the Chhindwara district, and in view of the sandy nature of the soil and the lie of the surface conceived the possibility of embanking the land for the cultivation of rice in lieu of the minor millets which now form the chief staples of the tract. Were such a style of cultivation found remunerative in this tract, it could, I gather from the Settlement Officer, Betul, be extended across the border into the Multai tahsil with every prospect of success. The matter was brought to the notice of the Deputy Commissioner, Chhindwara, who is using his influence in the direction desired, and is also testing the adaptability of the soil to rice cultivation in the Pagara Jagir which lies further to the north and is under the Court of Wards management. The first step in this experiment is the construction of a tank, which work has been undertaken.

The Deputy Commissioner applied to this office for some varieties of rice that would do well in relatively high altitudes. He was referred to the Settlement Officer, Seoni, with the remark that varieties that suited the conditions of this district would probably do well in Chhindwara.

At the same time I obtained two small samples of Basmati rice from Dehra Dun by the assistance of Dr. Leather, and some early and late ripening descriptions grown at high elevations in Lohardagga through the courtesy of the Director of Land Records and Agriculture, Bengal.

The latter consignment arrived too late owing to its being sent to Chhindwara in the Narsinghpur district. But Mr. Ryves got a very fair crop (600lbs.)

from local seed, and the land has since been placed under *birra* as a second crop. Ten acres of land are now being got ready and arrangements for irrigating this area will be complete before the rains. Transplantation will be tried in the monsoon of 1898.

Experiments with Japanese Clover.

53. The Japanese clover (*Lespedeza stricta*) which was experimented with by Mr. Standen, Settlement Officer, Betul, in September and November 1897, did not prove a success. Not a single seed germinated. The seed was sown in light-manured soil and was not irrigated. It was my intention to try this plant in Nagpur, but seed was not obtainable. A packet has now been ordered from England.

Protection of Crops from damage by Trees.

54. In a previous year the attention of Deputy Commissioners was specially invited to the fact that experiments on the Nagpur Experimental Farm had tended to indicate that damage to rabi crops from trees was caused rather by their roots which absorbed all available moisture than by their shade as has hitherto been supposed. It was suggested that the losses thus occasioned could to a great extent be obviated by digging trenches between the trees and the crops, thereby severing the surface roots. No damage to the trees so experimented on has been sustained on the Farm. The effect of the treatment is merely to force the trees to drive their larger roots further downwards and to tap the moisture of *strata* that cannot be reached by ordinary field crops.

The character of the season 1896-97 was not favourable for the conduct of these experiments, as the autumn was so dry that surface moisture evaporated with great rapidity and germination was very defective, whether in the vicinity of or away from trees. But experiments on the lines suggested were made in Narsinghpur, Hoshangabad, Nimar, Wardha and Bhandara, and in almost all cases with successful results. In Nagpur, where nothing in the way of experiment has yet been attempted, action should be taken in the Court of Wards estates. The Deputy Commissioner of Chanda promises similar action in his district. The Balaghat experiments failed last year owing to the drought; but further trials were made in 1897-98, the result of which will be reported in due course.

55. Small quantities of acclimatized Jaunpur maize seed were supplied to the undermentioned gentlemen :—

(1) Mr. Madho Singh, Manager, Court of Wards, Nagpur.
(2) Khan Bahadur Aulad Hussain, *C.I.E.*, Settlement Officer, Seoni.
(3) Khan Saheb C. M. Hathy Daroo, Ryotwari Patel of Seoni.
(4) Mr. Parmanand, Assistant Settlement Officer, Mandla.
(5) The Tahsildar, Lakhnadon.

To the last-named officer a large quantity of seed, *viz.*, 318lbs., were sent to be distributed among cultivators for sowing in their house-gardens in order that their food-supplies might be rapidly replenished. Maize is a crop which comes to maturity in about 2 or $2\frac{1}{2}$ months, which is a shorter period than is required by most staples. It was pointed out to the Tahsildar that any land devoted to this crop would also be available for *rabi* sowings if adequately manured.

Guinea-grass shoots for planting out on nala sides with a view to increase the fodder-supply of the country, were distributed to the following gentlemen :—

(1) Mr. Madho Singh, Manager, Court of Wards, Nagpur.
(2) Mr. Gangadhar Madho Chitnavis, *C.I.E.*, Malguzar.
(3) Mr. Hassan Khan, Assistant Settlement Officer, Bhandara.
(4) The Deputy Commissioner, Balaghat.
(5) The Manager, Court of Wards, Mandla.

It is noteworthy that the guinea-grass planted in the Farm at Nagpur has extended across a nala and is now flourishing without any special tending.

Varieties of cotton and linseed, &c., were supplied to—

(1) The Director of Land Records, North-West Provinces and Oudh.
(2) Mr. Madho Singh, Manager, Court of Wards, Nagpur.

(3) Rikhi Ram, Naik of Bilheri, in the Murwara tahsil of the Jubbulpore district.

(4) Thakur Hanuman Singh, Talukdar of Barwara, Jubbulpore district.

(5) Pandit Hanuman Prasad, Malguzar of Bijiraghogarh, Jubbulpore district.

(6) Mr. Abir Chand, Malguzar of Sadda, Jubbulpore district.

Implements.

56. No new implements were tried during the year. A Swedish plough was given for trial to the Tahsildar, Lakhnadon. A hand thresher was lent to the Roman Caholic Fathers for trial on the Mission Farm at Thana near Bori.

Sugar-cane Mills.

Four sugar-cane mills were given on hire to cultivators for one season. The Baby Cream-Separator which was lent to the Superintendent, Lunatic Asylum, has, it is understood, proved of advantage to that institution.

Sericulture.

57. Sericultural work is not as yet undertaken by this Department. But the mulberry plantation on the borders of the Pachmarhi lake is doing well.

Tussar Cultivation.

58. Experiments in tussar cultivation were continued in Chanda under the supervision of the Forest Department: 1,202 acres were given out for this purpose at a rental of Rs.300-8-0 as compared with 525 acres in the previous year, which affords some ground for supposing that the Dhimars have succeeded in making their gardens pay and that the industry is improving.

Fuel and Fodder reserves.

59. There is nothing of interest to note about these reserves in the three districts of the Chhattisgarh Division. Indeed, the Raipur and Bilaspur reports are quite silent on the subject. The Telinkheri reserve pays its way by the sale of its grass to the Experimental Farm, the Maharaj Bagh and by public anction. The value of the produce was Rs.410, and as Rs.140 represents the cost of establishment, the net profits are Rs.270. All planting operations on this reserve are carried out by the Farm establishment during periods of leisure, and no extra expenditure is thereby entailed. No great progress has been made in arborising this barren hill, and it is questionable whether without irrigation much success will be attainable. But the experience of the past few years shows that *khair* (*Acacia catechu*) will in course of time establish itself. When once these trees have attained a sufficient height to afford shade, other seedlings may with this assistance survive the rigour of a hot-weather sun. Even prickly pear finds difficulties in surviving. I have not yet found a suitable site for a well from which to irrigate a portion of the reserve, but this matter is engaging Mr. Joshi's attention. There seems no reason to doubt that with irrigation most trees can be established on this hill, for the arboricultural operations conducted by the Superintendent of the Maharaj Bagh in the Government House compound, where the soil and other conditions are exactly similar, have hitherto met with success.

SECTION VI.

Agricultural Education.

Means taken to extend Agricultural Education among the masses.

60. The following steps have been taken during the past year with a view to extending agricultural knowledge among the masses.

In the first place, Fuller's Agricultural Primer which was hitherto taught as a separate and optional subject in Primary Schools, has been embodied in the Readers that are in everyday use. The effect of this measure, simple as it may seem, is practically to make agriculture a compulsory instead of an optional subject in the curriculum. Cheap and simple sets of apparatus have also been supplied to the various schools with a view to the illustration by the masters of the various agricultural lessons in the Reader. In this way knowledge is being imparted to the young in what is now so widely recognized to be the proper manner, and their minds are brought into contact with the material objects or nature that surround them.

Object lessons, moreover, cease to be a separate subject, but become rather a method of imparting knowledge.

Thirdly, with a view to rendering more masters really capable of expounding intelligently the lessons embodied in the Readers, the scope of the Normal Agricultural Class has been enlarged, a new lecturer being appointed. We have now two parallel classes, each with two sessions annually, and this enables us to instruct 99 masters each year, also 40 normal class students, as compared with 66 masters in past years.

The Inspector-General of Education has also endeavoured to provide for effective supervision of the instruction afforded by the village masters on their return to their schools, and to attain this end, all the Deputy Inspectors of the Provinces were called into Nagpur for a week or ten days during the autumn, where the Principal of the Agricultural Class gave them a course of lectures with practical illustrations of the usual simple experiments.

These gentlemen were also shown round the farm, and no effort was spared by Mr. R. S. Joshi to secure their interest and co-operation in this new departure. The subjects taught in the Normal Class are Agriculture and Drawing to which has now been added, as a provisional and tentative measure, instruction in the Land Record system of the Provinces. During the last session, the masters have been taught to write a *khasra* and how to construct a *jamabandi* thereupon.

The School gardens also deserve favourable notice. Each District Council has, I learn, given four prizes, ranging between Rs.5 and Rs.12, for the four best gardens of the season. This measure has considerably stimulated the interest of both masters and boys.

During my tour I have inspected a few schools in four or five districts. There is no doubt that the quality of the instruction in agriculture is much better in those schools which are presided over by a master who has passed through the Nagpur Agricultural Class. But all the masters have hitherto confined themselves to lecturing within their school walls. I would advocate that the boys should be taken at least once a week into the fields. Instruction so imparted would be more easily assimilated.

Higher Education in Agriculture.

61. As to higher education in Agriculture, our Agricultural School has now been closed to all but Matriculates, and the junior class of the present year contains only four Scholarship-holders, one F. A. and three Matriculates; but in view of the concessions made by the Administration, *vide* Section II of this report, better results may be expected in future. The door is now open for our passed Agricultural students through the appointment of Revenue Inspector to Naib-Tahsildarships, and thence to the higher ranks of the Subordinate Civil Service.

The Chief Commissioner has, moreover, decided to offer one Scholarship per annum, tenable in the Poona College, to a F.A. student of the Nagpur Agricultural Class, who shows special aptitude for scientific research. Such students are, moreover, guaranteed appointments of Rs.100 per mensem on rejoining the Provinces after obtaining their diploma. The special concessions now made to students of agriculture have been explained by means of a circular letter issued in this Department to all Deputy Commissioners, and have been published in Educational Circles by the Inspector-General of Education. Every opportunity has also been taken during the course of my tours to explain the situation to Government Officers and native gentlemen of position.

SECTION VII.

Publication of Agricultural information.

62. Much of the work done under this head is enumerated in Section IV which details in what ways this Department has co-operated with the various Imperial Departments.

Apart from the usual crop forecasts, trade returns, agricultural statistics &c., alluded to therein, the following papers relating to agriculture were prepared and published by this Department during the year under report:—

1. Statements showing the dates of sowing and harvesting of crops in the various districts of the Central Provinces.

2. Note on the crop statistics of 1896-97, comparing the estimated outturn of the food-crops of the Provinces during the year with that obtained under normal conditions.

3. A list of agricultural implements and machines which were tested during the year 1896 and of those in use which were reported to have met with more or less marked success during the year.

Methods of storing Wheat to prevent damage from Weevils.

63. At the request of the Director of Land Records, Burmah, an enquiry was made as to the various methods of storing wheat in these Provinces in order to prevent damage from weevils. The results were duly communicated.

64. The following papers were received during the year from other Provincial Departments :—

1. Bengal Bulletin No. 1 of 1895, "List of the principal crops grown in Bengal."
2. North-West Provinces and Oudh Bulletin No. 5, "A new method of tree planting."
3. Monograph on the Cotton fabric industry of the Madras Presidency.
4. Monograph on the Dyes and Dyeing in Bengal.
5. Bengal Bulletin No. 3 of 1896, "Note on the races of wheat cultivated in Bengal."
6. Assam Bulletin No. 3, "Note on the cultivation of rhea."
7. Monograph on Cotton fabrics in the Hyderabad Assigned districts.
8. North-West Provinces and Oudh Bulletin No. 6, "Notes on the cultivation of Lucerne and Guinea grass for fodder."
9. Madras Agricultural Bulletin No. 35, "On water-lifts."
10. Bengal Bulletin No. 2 of 1896, "List of the principal crops grown in Bengal."

65. The duty of ledgering useful facts and information from District and Settlement reports, &c., has been entrusted to my Assistant to whom copies of Settlement Reports and reports of Scientific Departments are sent for perusal. As yet the progress attained is very small, but some information obtained from the above-mentioned sources have been ledgered under eight or nine separate heads. The information is not as yet sufficient to justify the issue of a bulletin.

Al cultivation.

66. Mr. Joshi was specially deputed to make further investigations into the subject of *al* cultivation, dyeing and printing in the Central Provinces. His report is being brought out by the Reporter on Economic Products in the Agricultural Ledger series and will be issued also as a Provincial Bulletin.

White-ants as a pest of Agriculture.

67. A note contributed by Mr. Mayne, the Settlement Officer, Balaghat, on the subject of white-ants as a pest of agriculture, was submitted to the Reporter, and has been reproduced in an Agricultural Ledger. A remedy for these termites suggested by Dr. Watt and termed *Gondal fluid* is being applied to trees in several districts with a view to test its efficiency.

Report on Australian cross-bred Wheats.

68. A report on the experience hitherto gained on the cultivation of Australian cross-bred wheats was submitted to Government.

CHAPTER VIII.

FINAL.

Fairs.

69. The usual statistics relating to the more important fairs were collated and published in the *Central Provinces Gazette.*

Extension of Communications.

70. No addition was made to the railway system of the Provinces. Road construction has added 91 miles of new roadway and 22 miles have been raised in class.

Extension of irrigation.

71. In my prefatory Chapter, I have briefly described the action taken by this Department with a view to place the working of the rice village rules of the Settlement Code on a proper footing in Chanda. A more detailed account of the progress attained during the year is given in para. 19 of my Annual Settlement Report (No. $\frac{519}{74}$, dated 9th February 1898). Similar action is now being taken in Seoni, but on a smaller scale.

72. *Museums, Art and Sciences.*—The number of museums in the Central Provinces remains the same, *viz.*, two,—the Provincial Museum at Nagpur and the local one at Raipur. The institution at Nagpur is in charge of the Agricultural Department. The grant for the year 1896-97 was Rs.1,552 from Provincial revenues. The actual expenditure amounted to Rs.814-3-10 for salaries and Rs.209-6-6 for contingencies. The balance at the close of the year was Rs.4,108-3-3. The objects added to the Museum during the year were:—

Twenty-four specimens of marble art work from Agra; two specimens of earthen figures made at Nagpur; one model of the Sultan water-lift from Madras, and 77 specimens of coins.

During the year the Museum was visited by 151,729 persons or 85,490 less than in the previous year. The Raipur Museum is in charge of the District Council. The year opened with a balance of Rs.444-10-4 and the total receipts of the year amounted to Rs.550 or Rs.150 more than in the previous year. The increase is due to the payment of a contribution from the Municipality. The chief item of expenditure is that of establishment, *viz.*, Rs.337-8-0. No new exhibits were purchased during the year. During the year 80,620 people visited the Museum as against 118,451 in the previous year. The decrease is due to the distress prevailing during the year.

Review of Registration Report.

73. The report on the working of the Registration Department was forwarded to this office for perusal and was returned with such remarks as appeared to be called for; but nothing in the report suggested any remarks in connection with the subject-matter of Resolution No. $\frac{4}{216\text{-}9}$ of 29th April 1897 of the Government of India in the Revenue and Agricultural Department, touching the amalgamation of the two departments.

Taxation of rents and land revenue instalments.

74. In the wilder portion of the Provinces where cultivation is all *kharif*, it is frequently expedient to collect rents in one instalment; for the tenants are in the habit of leaving their villages during the hot weather in search of employment in the harvesting of spring crops, &c. This is especially the case in Betul and other plateau districts. But the collection of the whole revenue in one instalment would entail hardship on malguzars, if the siwai assets were important, and if a large portion of this income accrued in the hot weather months from the sale of such jungle products as mahua, fuel, bamboos and timber. This question came up for consideration in connection with some Betul assessments, and on a representation to the Secretariat it was decided to amend Rule II of those framed under Section 7 of the Tenancy Act. The general rule will remain that no tenant of any mahal shall be compelled to pay on account of the autumn harvest an instalment of rent exceeding the amount which bears the same proportion to his whole yearly rent, as the amount payable to Government on account of the mahal for the autumn harvest bears to the whole yearly revenue assessed upon the mahal. But in villages where, for the reasons stated above, it is found expedient to decide the rent instalments of a mahal differently from the revenue instalments this will be arranged by an order of the Chief Commissioner embodied in the record-of-rights.

I have had some correspondence with the Deputy Commissioner of Mandla about the suitability of the rent and revenue instalments in the *haveli* portions of his district, and the case has now been referred to the Secretariat for orders.

I have the honour to be,

SIR,

Your most obedient Servant,

L. S. CAREY,

Director of Land Records and Agriculture,
Central Provinces.

Punishments inflicted on Patwaris

Nature of offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsinghpur.		Hoshangabad.		Nimar.	
		Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Non-residence	Dismissed ...	6	...	...	...	2	...	2	...	...	...	...	...	14	...	...	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	4	19 6 0	1	12 0 0	...	...	3	8 0 0	...	...	2	4 0 0	18	99 0 0	...	...
	Suspended ...	1	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	11	19 6 0	1	12 0 0	5	...	5	8 0 0	...	...	2	4 0 0	32	99 0 0	...	...
Misconduct ...	Dismissed ...	2	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	...	...	...	...	4	51 0 0	...	...	...	...	...	...	...	...	...	...
	Suspended ...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
	Total ...	2	...	2	...	8	51 0 0	...	...	...	...	...	...	2	...	...	...
Neglect of work (including inefficiency.)	Dismissed ...	7	...	2	...	2	...	...	...	...	...	...	...	2	...	5	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	12	23 6 8	40	172 8 0	24	192 1 0	26	55 3 6	26	108 4 6	25	135 6 4	47	113 0 0	46	111 8 0
	Suspended ...	...	...	...	...	5	...	...	...	...	...	...	...	3	...	1	...
	Transferred ...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	19	23 6 8	43	172 8 0	31	192 1 0	26	55 3 6	26	108 4 6	25	135 6 4	52	113 0 0	52	111 8 0
Dishonesty ...	Dismissed ...	...	...	1	...	14	...	...	...	...	...	1	...	2	...	...	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	1	5 0 0	...	...	...	...	...	...	...	...	...	...	...	...	3	22 0 0
	Suspended ...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	1	5 0 0	1	...	19	...	...	...	...	...	1	...	2	...	3	22 0 0
Pecuniary embarrassment.	Dismissed ...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
Physical inability to stand out-door work.	Dismissed ...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Grand Total	Dismissed ...	17	...	5	...	18	...	4	...	...	...	1	...	20	...	5	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	17	47 12 8	41	184 8 0	28	243 0 0	29	63 3 6	26	108 4 6	27	139 6 4	65	212 0 0	49	133 8 0
	Suspended ...	1	...	...	...	15	...	...	...	...	...	...	...	3	...	1	...
	Transferred ...	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...
	Total ...	35	47 12 8	48	184 8 0	63	243 0 0	33	63 3 6	26	108 4 6	28	139 6 4	88	212 0 0	55	133 8 0

during the year ending 30th September 1897.

Betul.		Chhind-wara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	10	...	...	...
...	...	...	...	2	...	16	45 6 8	2	10 0 0	...	...	...	...	...	...	3	13 2 8	2	6 0 0
...	...	3	...	...	...	2	...	...	...	...	...	...	...	...	...	6	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	3	...	3	...	20	45 6 8	2	10 0 0	...	...	...	...	29	...	28	13 2 8	5	6 0 0
...	...	2	...	1	...	...	...	...	...	...	...	2	...	4	...	1	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
39	229 6 8	8	115 4 11	20	100 4 8	2	2 0 0	...	...	...	...	13	239 5 0	...	...	10	79 10 8	...	...
...	...	...	...	8	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...
...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
39	229 6 8	11	115 4 11	31	100 4 8	3	2 0 0	...	...	...	...	16	239 5 0	4	...	11	79 10 8	...	...
1	...	1	...	3	...	...	...	...	...	5	...	...	...	7	...	1	...	3	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	...	...	...
9	52 4 2	8	35 0 0	26	113 4 0	7	14 8 0	41	241 11 8	60	162 1 11	20	176 7 9	496	1,713 2 0	36	202 2 8	9	12 0 0
...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...
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10	52 4 2	9	35 0 0	31	113 4 0	7	14 8 0	41	241 11 8	66	162 1 11	20	176 7 9	503	1,713 2 0	57	202 2 8	12	12 0 0
...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	10	...	...	...
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2	15 0 0	...	...	2	...	...	...	...	...	...	...	...	...	...	...	5	28 5 4	...	...
...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	15 0 0	1	...	3	...	...	...	...	...	...	...	...	...	...	...	16	28 5 4	...	...
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1	...	3	...	6	...	2	...	...	...	5	...	2	...	28	...	21	...	7	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	25	...	...	...
50	296 0 0	16	150 4 11	50	213 8 8	25	61 14 8	43	251 11 8	60	162 1 11	33	415 12 9	496	1,713 2 0	54	323 5 4	11	18 0 0
...	...	1	...	10	...	3	...	...	...	...	...	1	...	...	...	12	...	...	...
...	...	...	...	3	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
51	296 10 10	20	150 4 11	69	213 8 8	30	61 14 8	43	251 11 8	66	162 1 11	36	415 12 9	536	1,713 2 0	112	323 5 4	18	18 0 0

Punishments inflicted on Revenue Inspectors

Nature of offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsinghpur.		Hoshangabad.		Nimar.	
		Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Non-residence	Dismissed ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*) ...	...	...	...	...	...	...		...	...	...	...	...	...	...	...	...
	Fined ...	...	...	..	...	...	...		...	...	...	.	...	...	...	...	...
	Suspended ...	.	...	...	...	.	...	...	...	...	...	..	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Misconduct ...	Dismissed ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*) ...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
	Fined ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	...	...	..	...	...	...	...		...	...		...	...	...		...
Neglect of work (including inefficiency).	Dismissed ...	...	...	...	... (*b*)	1	...	...	...	...	...	...	...	...	...	..	...
	Degraded (*a*) ...	...	...	1	...	1	...	1	...	1	...	...	...	1	...	...	...
	Fined ...	4	55 0 0	1	20 0 0	3	36 0 0	1	3 0 0	3	21 0 0	1	5 0 0	2	22 8 0	...	...
	Suspended ...	...	...	1	... (*b*)	1	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	4	55 0 0	3	20 0 0	6	36 0 0	2	3 0 0	4	21 0 0	1	5 0 0	3	22 8 0	..	...
Dishonesty ...	Dismissed ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended ...	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...
Pecuniary embarrassment.	Dismissed ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*) ...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
	Fined ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...
	Total ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Physical inability to stand out-door work.	Dismissed ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
	Suspended ...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL	Dismissed ...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*) ...	...	...	1	...	1	...	1	...	1	...	...	...	1	...	...	...
	Fined ...	4	55 0 0	1	20 0 0	3	36 0 0	1	3 0 0	3	21 0 0	1	5 0 0	2	22 8 0	...	...
	Suspended ...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	4	55 0 0	3	20 0 0	6	36 0 0	2	3 0 0	4	21 0 0	1	5 0 0	3	22 8 0	...	...

(*a*) Includes loss of field allowance.

(*b*) This case represents that of a Revenue Inspector

during the year ending 30th September 1897—(concld.)

Betul.		Chhind-wara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
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...	...	1	40 0 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	7	60 0 0	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	7	60 0 0	...	...	1	...	...	...	...	...	...	...	...	...	...	...
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1	5 0 0	2	30 0 0	3	25 2 8	1	2 0 0	4	156 12 5	2	1 8 0	9	150 11 11	1	90 11 0	12	27 0 0	3	4 0 0
...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
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1	5 0 0	2	30 0 0	3	25 2 8	2	2 0 0	4	156 12 5	2	1 8 0	9	150 11 11	12	90 11 0	12	27 0 0	3	4 0 0
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1	5 0 0	3	70 0 0	10	85 2 8	1	2 0 0	4	156 12 5	2	1 8 0	9	150 11 11	12	90 11 0	12	27 0 0	3	4 0 0
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1	5 0 0	3	70 0 0	10	85 2 8	2	2 0 0	5	156 12 5	2	1 8 0	9	150 11 11	12	90 11 0	13	27 0 0	3	4 0 0

whose punishment (namely, a fine of Rs.30) was followed by suspension and dismissal.

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REPORT

OF THE

OPERATIONS OF THE DEPARTMENT OF LAND RECORDS & AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR ENDING

30th SEPTEMBER 1898.

Allahabad
PRINTED AT THE PIONEER PRESS

1899

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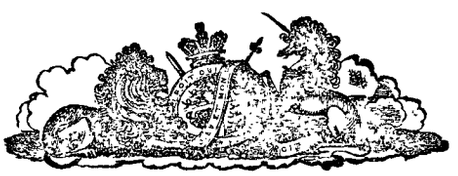
OF THE

OPERATIONS OF THE DEPARTMENT OF LAND RECORDS & AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR ENDING

30th SEPTEMBER 1898.



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Ernest Leroux, 28, Rue Bonaparte, Paris.

Martinus Nijhoff, The Hague.

In India.

Thacker, Spink & Co., Calcutta and Simla.

Newman & Co., Calcutta.

Thacker & Co., Ld., Bombay.

Higginbotham & Co., Madras.

Superintendent, American Baptist Mission Press, Rangoon.

REPORT

ON THE

OPERATIONS OF THE DEPARTMENT OF LAND RECORDS & AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR ENDING THE 30TH SEPTEMBER 1898.

No. $\frac{2159}{3}$.

FROM

R. H. CRADDOCK, ESQ., I.C.S.,

DIRECTOR OF LAND RECORDS AND AGRICULTURE,

Central Provinces,

To

THE SECOND SECRETARY TO THE CHIEF COMMISSIONER,

REVENUE DEPARTMENT,

Central Provinces.

Dated Nagpur, the 8th June 1899.

SIR,

I HAVE the honour to submit the usual Annual Report on the working of the Department of Land Records and Agriculture during the year ending the 30th September 1898. I regret that the report is again late. Some of the most important materials are furnished by the District and Divisional Revenue Administration reports, the last of which only reached me at the end of April. It would conduce to the punctual submission of this report if Deputy Commissioners and Commissioners were to forward me direct copies of those sections of their revenue reports relating to the branches of revenue administration with which I have to deal.

SECTION I.

PREFATORY.

2. The office of Director of the Department of Land Records and Agriculture was held by Mr. Carey up to the 19th May 1898, and from that date up to the end of the year by Mr. C. W. E. Montgomerie, *I.C.S.* Since that date Mr. Carey resumed charge on the 31st October 1898, and I received it again from him on the 28th March 1899. The post of Assistant to the Director was held by Mr. Ratnaparkhe up to the 28th March 1898, on which date he returned to the regular line, being succeeded by Mr. Parmanand, from Raipur.

Tours of Director.

3. During the cold weather of 1897-98, Mr. Carey inspected field work in seven districts, *viz.*, Nagpur, Wardha, Chanda, Raipur, Bilaspur, Balaghat and Seoni. In all but the first two there were Settlement operations of some kind in progress. In April, Mr. Carey also visited Betul. In the rains Mr. Montgomerie inspected office work in Nimar, Chanda, Bilaspur and Raipur.

4. Mr. Ratnaparkhe, in the course of his cold-weather tour, inspected field work in the following districts:—Nagpur, Seoni, Jubbulpore, Damoh, Saugor, Narsinghpur and Hoshangabad. In August 1898, Mr. Parmanand inspected the Kanungo's offices at Narsinghpur, Gadarwara, Jubbulpore, Sehora and Murwara. The districts of Mandla, Chhindwara and Sambalpur were thus the only ones left uninspected.

SECTION II.

LAND RECORDS ESTABLISHMENT.

Revision of Establishment.

5. The measures taken for improving the prospects of the Land Record staff were referred to last year. It will be some time before the full effect of those measures will appear; but, in the meantime, it is satisfactory to find that a few Revenue Inspectors have been given a trial as Naib-Tahsildars, and it would be well if Deputy Commissioners would notice in their reports how far this step has proved satisfactory.

Revision of Land Record Establishment in the *khalsa*.

6. As the re-settlement of each district is concluded, the revision of the Land Record staff is taken in hand. This revision has been effected in previous years in the *khalsa* areas of Chhattisgarh, in Jubbulpore, Damoh and Mandla, in Narsinghpur, Hoshangabad and Chhindwara, and in Wardha and Nagpur. In Saugor, as stated last year, the revised *halkabandi* was drawn up in 1897, but the continued agricultural depression, by lowering the rental demand upon which the patwaris' local dues are calculated, has dislocated the scheme as then prepared and delayed its submission. In Seoni proposals for revision were drawn up by the Settlement Officer entailing the addition of 20 patwari circles and the employment of two more Inspectors. The sanction of the Administration to his scheme has recently been received. Revision proposals are under preparation in the districts of Betul, Bhandara, Balaghat and Nimar, those for the Betul and Bhandara tahsils having been submitted since the close of the year. The only district not mentioned is Chanda, and preliminary proposals for this district also have been sent up recently. By the end of the year the revision of Land Record arrangements in the *khalsa* areas of the Province (Chanda excepted) should be in a fair way towards completion.

7. In the zamindaris the Land Record staff has hitherto been much undermanned, and in view of the approaching settlement of the zamindari areas in the three districts of Raipur, Bilaspur and Sambalpur, proposals were drawn up for the provisional augmentation of the staff pending the regular revision to be effected on the completion of the re-settlement. These proposals which were sanctioned after the close of the year provide for 30 new patwaris and a Revenue Inspector in each of the Raipur and Bilaspur districts, and for 25 new patwaris in Sambalpur. Proposals drawn on similar lines for the Chanda zamindaris, where the staff is still more inadequate, have also been submitted lately.

The Chhindwara *jagirs* are now the only considerable areas for which returns based on survey are not available. Their survey is about to be undertaken, and the temporary staff of 18 patwaris and one Revenue Inspector was made permanent during the year. A permanent Assistant Superintendent of Land Records has also been sanctioned for Sambalpur.

8. These measures for strengthening the Land Record staff of necessity entail a considerable extra expenditure on the Provincial Patwari Funds, the balance to the credit of which now stands at a lower figure than at any time since its constitution. This result is largely due to the losses consequent on the famine and the lesser failures which preceded and, in some districts, have followed it. Remissions and suspensions of patwari-cess made coincidently with those of the Land Revenue have been accompanied by the necessity of making extra grants to patwaris unable to collect local dues. Postponements and delays in bringing in revised settlements, and the smaller revenue enhancements which the depressed condition of some districts has entailed, have resulted in a lower cess demand than was originally anticipated. Equilibrium will doubtless be restored if a few good years succeed; but in the meantime the drain on the Fund is serious. Representation has already been made to the Administration for the restoration of some Rs.17,000 spent on additional patwaris and Inspectors for the distribution of village relief in the famine. The cost of this extra staff was charged provisionally to the Patwari Fund, which also had to bear a further charge of Rs. 34,000, in additional allowances and compensation for dearness of grain entailed by the famine.

9. *Working of the Land Record Staff.*—Measures for enforcing the residence of patwaris with their families in their circles continued to be taken in every district, and by the close of the year only 550 out of a total staff of 4,601 in malguzari villages (including the zamindaris of Bhandara and Balaghat) were non-resident without permission, the number at the beginning of the year having been 597. In districts under settlement, where circles are being revised and a number of men are appointed to act as additional Revenue Inspectors, the residence rule cannot be enforced against temporary men, while coercive action has sometimes to be suspended in the case of men whose whole time is taken up in attestation, or the preparation of settlement records. This has been the case in Betul, Nimar and Bhandara, in which districts the proportion of non-resident patwaris is undesirably large. It is, however, difficult to understand how in Nimar, out of a total staff of 258, the number non-resident has risen from 3 to 78, and this large and sudden rise is not satisfactorily explained. In Betul, the Settlement Officer explains that in 29 out of 84 cases of non-residence, the patwaris are temporary or hold scattered ryotwari circles, and he lays stress on the great difficulty in inducing Brahman patwaris with relatives in the important villages of the district to take up a permanent residence in remote and jungly circles. Vacancies are, however, being gradually filled up by men of mixed castes more likely to settle in the remoter circles.

Residence of patwaris within their circles.

In Mandla, where the re-organization of the staff on completion of survey was followed by the famine, two-thirds of the staff had not taken up residence at the beginning of the year. The number of non-residents has been reduced by nearly a half.

In other districts the ordinary fluctuations due to new appointments occur; and the residence rule is now successfully enforced to an extent which hardly seemed possible a few years ago.

10. Since the completion of cadastral surveys, patwaris do not have the same practice in surveying as formerly, and it is very necessary that regular training should be undertaken both of new patwaris who are found deficient in survey, and of candidates to fill vacancies as they arise.

Training of patwaris.

Classes are opened in the rains at district head-quarters, and in most cases at the head-quarters of Revenue Inspectors' circles. In Balaghat no class was opened, and the Nimar, Nagpur, Chanda and Bilaspur reports are silent on the subject, but a large number of candidates were trained in the other districts, and in Damoh, Narsinghpur, Hoshangabad and Raipur a number of patwaris were passed through the course, which includes survey, *khasra* writing and area calculation.

The general instruction of patwaris in the performance of their various duties under the patwari rules devolves upon the Revenue Inspectors and superior Land Record staff, and it is by the general efficiency of their patwaris that the work of the supervising staff must be judged. There is still room for great improvement in this respect.

11. *Condition of Village Maps and Boundary Marks.*—One of the most important duties of a patwari is to keep his map up to date by bringing on to it the changes which occur year by year. This task has been rendered more difficult than usual by the numerous changes in occupation brought about by the famine; while, at the same time, the patwaris were too busily engaged in their duties under the Famine Code to keep pace with the changes. Recent inspection reports show that the work of map correction is still in rather an unsatisfactory condition, and the insistence upon this duty is one of the matters which requires the attention of Deputy Commissioners. In order to enable the work of map amendment to be properly carried on, it is essential that the patwaris' trace maps should be from time to time renewed, as they become defaced by corrections.

Map correction.

The number of traces replaced in the year are shown below :—

Damoh	...	...	...	...	40
Hoshangabad	...	...	...	...	361
Narsinghpur	...	...	...	...	174
Chhindwara	...	...	...	...	160
Wardha	...	...	...	...	446
Chanda	...	...	...	...	111
Sambalpur	...	...	...	...	486

Work of this kind will certainly be necessary in Saugor, Nagpur and Jubbulpore also in which districts some years have now elapsed since the cadastral survey was carried out. In Raipur and Bilaspur where the survey of minute rice plots was undertaken, the work of map amendment prior to attestation has proved of great difficulty, and similar trouble is anticipated next year in Sambalpur. A scheme for permanently demarcating the boundaries of compact holdings in the latter district was referred to in para. 25 of last year's report. Such a demarcation would obviate the necessity for surveying the minute rice plots within the holdings without which it is at present impossible to identify the land on the map. The Deputy Commissioner selected a village in order to test the feasibility of effecting such demarcation, but found that 800 stones costing Rs.160 would be required in this village alone if the outer boundaries of each holding were to be clearly shown on the ground. If this estimate is correct it would cost over four lakhs of rupees to effect complete demarcation over the whole district. This is of course prohibitive, and the scheme must be dropped unless the ryots can be induced to demarcate their holdings themselves. So far as the ryots are concerned, their tenure is practically ryotwari, and it would not be unreasonable to expect them to do this, but we have no legal power to compel them in the matter. The question will receive further consideration, as map amendment operations will begin in Sambalpur next cold weather.

Boundary marks and traverse stations.

12. Village boundary marks are, as a rule, satisfactorily maintained in all districts, but it would appear that of late years the Hoshangabad malguzars, especially those of the Sohagpur tahsil, have allowed a great many boundary pillars and trijunction points to fall into disrepair. The Deputy Commissioner reports that he is taking action to enforce their proper repair and maintenance. A similar complaint has been received from Betul, where these marks are neglected in unoccupied waste lands, though maintained in good order on occupied lands.

Permanent marks for traverse stations.

13. The system of marking sites of traverse stations by stones 3 feet high was successfully carried out during the year in Wardha, and is about to be adopted in Nagpur. In Bhandara, pillars constructed of brick and lime are being substituted for the existing mud ones. Similar action would be of advantage in other districts also; but, provided that the mud marks are maintained, it is better to wait for more prosperous seasons before calling upon malguzars to incur expenditure in this matter.

Boundaries of survey numbers in ryotwari villages.

14. It is an essential part of the ryotwari system that the boundary marks of survey numbers should be regularly maintained. Little has been said on this subject in the reports, but the Commissioner of Jubbulpore has brought to light that there has been great neglect in the maintenance of these marks in some circles of Mandla district. He has issued orders, which he hopes will ensure their speedy restoration and maintenance in the future. Changes in the Inspectors' staff and the disorganization of the famine account for this failure to some extent.

15. It is desirable that when reporting on the subject of boundary marks, Deputy Commissioners should distinguish between the village boundary stones, traverse stations and ryotwari boundary marks. At present a good deal of confusion seems to exist on this subject.

16. *Degree of Punctuality observed in filing Village papers.*—Statement J of the Agricultural series shows the number of the various compilations of the *khasra*, *milan-khasras*, *jinswars* and *jamabandis* respectively filed by the due date or delayed beyond it. In the districts of Saugor, Damoh, Hoshangabad, Chhindwara, Wardha, Nagpur and Sambalpur—all these papers were punctually submitted. In Betul, Nimar, Bhandara, Balaghat, Seoni and in one tahsil of Raipur, settlement operations hampered the filing of these returns. Mandla was the only district of these remaining in which any considerable delay occurred, though a few jamabandis were a month late in Jubbulpore, Bilaspur and Narsinghpur. Altogether it may be said that in districts in which land record was unimpeded by settlement duties commendable punctuality was attained in the submission of these important returns.

17. The late publication of our annual crop statistics has of late years been felt to be a defect in our Land Record procedure. In pursuance of a suggestion made by Mr. Carey, the crop statistics of 1897-98 were submitted to the Secretariat at the close of the agricultural year. In the ordinary course these figures could not have been reviewed for at least another year. The returns for the year 1898-99 are now coming in and are being checked and compiled in my office.

18. *Testing of Village papers.*—The extent to which village papers were tested in the eleven districts in which there were no settlement operations in progress, is shown below :—

District.	Percentage of *khasra* entries checked by Inspectors.	AMOUNT OF TESTING EFFECTED BY					
		Superintendent and Assistant Superintendent of Land Records.		Tahsildars.		Deputy Commissioners and Assistant Commissioners.	
		Number of		*Number of*		*Number of*	
		Villages.	Entries.	Villages.	Entries.	Villages.	Entries.
Saugor	14	1,518	14,575	227	1,923	88	1,428
Damoh	9	212	7,752	47	941	43	1,037
Jubbulpore	11	506	11,873	63	2,719	113	2,126
Mandla	11	128	2,321	21	927	(*b*) 20	(*a*) 575
Narsinghpur	13	578	6,120	77	1,242	4	32
Hoshangabad	14	677	12,008	142	1,508	41	450
Chhindwara	13	325	(*c*) 4,241	123	1,855	40	453
Wardha	22	595	11,751	361	3,021	193	2,980
Nagpur	13	453	6,893	230	2,981	26	300
Bilaspur	10	583	25,291	106	2,339	27	769
Sambalpur	8	398	5,970	72	1,161	3	40

(*a*) By Extra-Assistant Commissioner.
(*b*) Of these seven villages were tested by Extra-Assistant Commissioner.
(*c*) 2,605 Rasid Bahis.

Amount of check by Land Record staff.

19. The work done by Revenue Inspectors has been generally satisfactory; the percentage of entries tested having in most cases risen. Superintendents and Assistant Superintendents of Land Records have also on the whole done well, but a considerable falling off has occurred in the case of the districts of Mandla, Narsinghpur and Sambalpur as shown below :—

Name of district.	1896-1897.		1897-1898.	
	Number of		*Number of*	
	Villages.	Entries.	Villages.	Entries.
Mandla	135	3,133	128	2,321
Narsinghpur	710	10,782	578	6,120
Sambalpur	476	7,857	398	5,970

The work returned by the Superintendents of Land Records, Mandla and Damoh, is particularly short. Duties in connection with famine in the first two months of the year and with revenue remissions may be an excuse for some part of this deficiency; but in Saugor and Jubbulpore, where similar conditions prevailed, much better results are shown. In Mandla, particularly, the detention of the Superintendent at Head-Quarters, was again the cause of this insufficient tale of inspection.

Extra-Assistant Commissioners not sufficiently utilised for revenue work.

20. I do not consider that these abuses will be fully remedied until we have more Extra-Assistant Commissioners whose knowledge of revenue matters is not limited to the disposal of mutation cases. The present procedure followed in the majority of districts, by which one of the Extra-Assistant Commissioners is put in charge of each tahsil for revenue work is, in my humble opinion, radically unsound. Each has his judicial work to perform, and looks upon revenue business as an irksome addition to his regular duties to be carried out at the end of the day and hurried over as much as possible. They seldom or never go out on tour and acquire little personal knowledge of the tahsil of which they are supposed to be in charge. If one of the number were put in charge of the revenue work of the district and constantly sent on tour, we should hear less of the detention of the Superintendent of Land Records, whenever the Deputy Commissioner had a heavy revenue case to prepare which required local knowedge or thorough acquaintance with settlement records. I would invite a reference to the last sentence of the Chief Commissioner's Resolution on the Revenue Administration of the Provinces for the year 1894-95.

Inspection of Village records by Tahsildars.

21. The *khasra* checking work done by Tahsildars is frequently very inadequate, and all sorts of excuses are put forward. Considering that a Tahsildar is, or ought to be, constantly on the move within his tahsil, and must daily pass through a number of villages in which *khasra* writing is in progress, the excuse that he cannot find time to inspect village records, is of course absurd. What Tahsildars can do is shown by what some of them actually have done. In the year under report Tahsildars over the Province as a whole tested records in 1,955 villages, of which nearly half were accounted for by the Tahsildars of the Nagpur Division, the Tahsildar of Arvi (Dhundiraj Janardhan) having done specially good work of this kind. The small number of entries tested in Raipur is stated to be due to settlement operations, but in two tahsils there was no settlement work going on. In the Jubbulpore Division the check by Tahsildars was quite insignificant in Damoh and Mandla; and in the Nerbudda Division it was specially meagre in Narsinghpur. The Deputy Commissioner, Hoshangabad, notes that the Tahsildars perform their duty in a very perfunctory manner, and the Deputy Commissioner of Chhindwara considers the Tahsildar of Sausar to be deserving of censure. But he has done more check than many other Tahsildars.

Deputy Commissioners and Assistants.

22. Deputy Commissioners and their Assistants pay more attention to village records than they used to do a few years back, but the attention paid is very unequal. The Deputy Commissioner of Wardha tested 2,980 entries in 193 villages, the Deputy Commissioner of Narsinghpur 32 entries in four villages. Among Extra-Assistant Commissioners, Mr. Krishnaji Anant did good work in Bilaspur.

The village papers are generally found to be accurate so far as major entries relating to rent, right and possession are concerned. The largest proportion of errors discovered by Revenue Inspectors was 3 per cent. in Bilaspur, between 1 and 2 per cent. being the general average.

Checking of jamabandi by kanungos.

23. The amount of *jamabandi* testing done by kanungos has largely increased—by more than 50 per cent., and the number of errors has again fallen. In districts in which settlement work has not interfered with the land record work of the year the percentage of errors is very small.

Conduct and discipline of Land Record staff.

24. The services of the Land Record staff during the famine were acknowledged in cordial terms by all officers last year, and Commissioners and Deputy Commissioners again speak well of the work as a whole. The constant returns and additional statements which it has been necessary in some of the northern districts to ask for in connection with remission of land-revenue, has imposed a heavy additional burden on patwaris and Revenue Inspectors, and it is satisfactory to find that the Commissioner of Jubbulpore Division is able to speak in warm terms of the land record work in Saugor and Damoh.

A tabular statement showing the punishments inflicted on the staff is appended to this report. Superintendents of Land Records and their Assistants have generally done well, the Superintendent of Narsinghpur alone having been punished (by a fine of Rs.10) during the year, for carelessness in submitting returns. The extensive use which some Deputy Commissioners make of their Superintendents of Land Records, is the best testimony to their efficiency. As a large number of the senior Superintendents are on deputation to settlement work, and many of the actual working Superintendents are officiating men, the absence of punishments is particularly satisfactory.

25. Turning to Revenue Inspectors, 98 punishments were inflicted against 83 in the previous year, but it is noticeable that none were inflicted in Seoni, Nimar and Balaghat, the four cases noted against the last-mentioned district relating to Additional Inspectors recruited from the patwari staff for famine duty. All these districts were under settlement at which time a very close supervision is exercised over Revenue Inspectors by the Settlement Officer and his Assistants. Similarly, in Betul and Bhandara, the punishments were trifling.

Over the Province as a whole, the punishment list of Revenue Inspectors is as follows :—

Dimissed	7
Reduced (including loss of field allowance)	6
Suspended	4
Transferred	3
Fined	78
Total ...	98

Many of the fines were small ones, the aggregate fines inflicted being Rs.738, or less than Rs.10 per head. The sanctioned permanent staff consists of 177 Inspectors, exclusive of additional Revenue Inspectors in districts under settlement, and probationers. Only one punishment was inflicted for dishonest work, the other punishments, including the dismissals, being for neglect of work or other misconduct. The major punishments are always imposed either by the Director of Land Records or with his approval after reference to the character-roll maintained for each Revenue Inspector in his office. Against these punishments must be set the fact, that field allowances are drawn by 131 men as rewards for good work.

26. The punishment-roll of patwaris includes—

169	dismissals.
54	reductions.
118	suspensions.
26	transfers.
1,018	fines.
Total ... 1,385	

Of the 169 dismissals, 21 were for non-residence, 46 for misconduct, 56 for neglect of work, 29 for dishonesty, 4 for pecuniary embarrassment, and 13 for physical inability to perform the duties of the post. Raipur, with the largest staff, heads the list of punishments, but the number is less than half

hat of the previous year. Bilaspur comes second with 187 punishments, including 27 dismissals. The Commissioner of the Division records that a large number of appeals from the Bilaspur district came before him, but that he seldom had occasion to modify the Deputy Commissioner's order, though in many cases further enquiry was necessitated by the meagreness of the record. In Nimar and Chanda, on the other hand, only 19 and 11 punishments respectively were imposed.

27 The punishment-roll both of Revenue Inspectors and patwaris is regrettably large; but it must be remembered that we are dealing with a staff for the most part low-paid who are scattered over the face of the country, each man of necessity being out of the sight of his superior for several days at a time, and that the conduct of the work can only be maintained under a system of rewards and punishments. Most of the fines inflicted are for acts of carelessness and unpunctuality, which are individually perhaps of small consequence. But if such failures to comply with rules were to be passed over, there would soon be an end to all punctuality and care.

28. *Sanads for improvements.*—The issue of *sanads* for improvements made by landlords and tenants, is generally dealt with under this section.

The return for the year is as follows:—

Saugor	7
Damoh	246
Jubbulpore	2
Mandla	14
Seoni	131
Narsinghpur	9
Hoshangabad	5
Nimar	25
Betul	...
Chhindwara	2
Wardha	13
Nagpur	...
Chanda	9
Bhandara	24
Balaghat	2
Raipur	3
Bilaspur	37
Sambalpur	12
Total ...	541

The great differences in the number of *sanads* issued in the various districts are partly due to differences in the number of improvements carried out, but mainly to the extent to which the proper procedure has been carried out by the Land Record staff and other Revenue Officers. If applicants are required to hang about the District Court waiting for *sanads*, there will be no keenness for these documents. The standing orders on the subject are contained in Revenue Book Circular I-13. The patwari notes the improvement in his *khasra* and draws the attention of his Revenue Inspector to it. The latter attests after local inquiry on the spot whether the conditions for a *sanad* have been fulfilled, and reports the case to the Deputy Commissioner. A Tahsildar or the Superintendent of Land Records or an Officer of superior rank, verifies the case and takes the Deputy Commissioner's order; the *sanad* is made out and handed through the Revenue Inspector and patwari to the person entitled to it. No application is necessary. There is not the slightest occasion for the man who made the improvement to be summoned to the tahsil or district head-quarters, though I have not the least doubt that this is often done by Officers who are making enquiries.

As in most matters of administration if the Deputy Commissioner initiates the staff will follow, but if he only remembers it every year when the time comes for writing the annual Revenue Report, not much progress is likely to be attained. The observance of the procedure laid down in Rule 41 (*a*) of R. B. C. III-1 should prevent delays in the disposal of these cases.

29. Another point which requires to be noticed is that it is absolutely useless when a district is under settlement for the Deputy Commissioner to call upon the Settlement Officer to supply him with a list of improvements qualifying for *sanads*. The *sanad* is intended to convince the Settlement Officer that a certain improvement is entitled to exemption, and for the latter to supply the list of works so entitled in order that *sanads* may be issued to convince him of facts which he himself ascertained is waste of labour. By the time the *sanad* is issued, it has ceased to be of value. *Sanad* or no *sanad*, the work has received due credit in the assessment proposals, and by the next settlement the exemption will have been exhausted. A reference of this kind has been made in Chanda, where the Deputy Commissioner is anxious to distribute *sanads* for works carried out in the famine ; but unless some of these works are so costly as to qualify for a further exemption beyond the term of the approaching settlement, the grant of *sanads* will be an empty formula.

SECTION III.

Utilisation of Land Records.

30. *Circle Note-Books.*—Circle note-books are now complete in all districts in which their introduction was ordered, except Sambalpur, (in which failure to complete them is not satisfactorily explained,) and good progress has been made in the districts under settlement in respect of circles which have been re-assessed. By the end of this year they should be complete for all districts except Raipur, Chanda, Bilaspur and Mandla. The chief object of these books is to enable the Deputy Commissioner to detect localities in which deterioration appears to be taking place, and to indicate when local enquiry is needed.

The question has been referred from Nimar whether these books should be written up for ryotwari villages. The Chief Commissioner's decision on this point has not yet been received.

31. *Village Note-Books.*—The subject of village note-books was specially referred to in para. 26 of the Chief Commissioner's Resolution on the Revenue Administration of the Provinces for the year 1896-97. The subject continued to engage the attention of Mr. Carey this year ; and he pointed out to the Deputy Commissioners concerned the defects in the manner of keeping up these books noticed at his inspection. In the Jubbulpore Division good progress seems to have been made, though it is feared that many books are still defective. In the Nerbudda Division again delays are reported in the delivery of the books by the Police to the Tahsili and the Commissioner writes that the amendment to Revenue Book Circular III-4 (No. 51, dated the 4th May 1898) has as yet produced little effect. He refers to his suggestion contained in his report of the previous year to the effect that Deputy Commissioners should call for weekly progress reports from the Police and kanungos as to the disposal of the village note-books. This suggestion was regarded by Mr. Carey as an excellent one, and it is within the competence of the Commissioner of the Division to prescribe this procedure. The interest taken by many Deputy Commissioners in the regular maintenance of the village note-books does not seem to be lively at present to judge from the fact that about half the revenue reports are silent on the subject. A great many of the defects noticed in these note-books are due to the inefficiency of kanungos. A recent appointment in the Raipur district of a man who was incompetent to deal with village statistics was justified by the Deputy Commissioner on the ground that he had to consider the claims of officials in the District Office. There can be no claims except efficiency to the post of Kanungo, whose duties are dissimilar to those of the ordinary clerks of the district establishment. Measures for bringing

the kanungos on to the regular Land Record staff and filling the posts with deserving Revenue Inspectors who have borne the burden and heat of years of village inspection, have for some time been in contemplation ; but it is impossible for these to be brought into effect until the position of the Patwari Fund has become assured and its income recovers itself. In the meantime, however, there is no reason why Deputy Commissioners should not take the opportunity of a vacancy occurring to appoint men conversant with village records. There are many Inspectors getting on in years who are unequal to the severe exertion of constant touring, and would be glad, even at some loss of pay, to accept kanungos' posts.

32. *Famine Note-Books.*—Progress has been made in Nimar and Balaghat in filling up entries for these books; but I fancy that in most districts they will require a good deal of overhauling in the light of the experience gained in the famine.

33. The value of village records was regarded as visionary some years back when the land record system was new. It needs no demonstration now. Those were days of prosperity, when revenue came in regularly, and statistics were not required to prove the progress everywhere self-evident. But in these days of adversity, where deterioration has to be measured and revision of revenue apportioned, without land records the District Officer would indeed be lost.

SECTION IV.

Scientific and National Enquiry under Imperial Control.

34. Of the Imperial departments referred to in Resolution No. IV of the Government of India, the Land Record Department in the Central Provinces has in some degree co-operated with the following :—

(1) The Survey Department.

(2) The Meteorological Department.

(3) The Department under the Reporter on Economic Products.

(4) The Civil Veterinary Department.

(5) The Department of Agricultural Chemistry.

(6) The Statistical Department.

Co-operation with Survey Department.

35. The survey of the better-established villages in the zamindari estates of the Chanda, Raipur and Bilaspur districts continued during the year, though on a very small scale in the two latter districts as there was little remaining to be done. The amendment of maps and records in the Raipur and Mungeli tahsils continued during the year under report as part of the Settlement operations.

Topographical Maps.

36. The progress made in communicating to the Deputy Surveyor-General important changes in local topography brought about by the general progress of the country since the topographical maps were compiled was reported in para. 36 of the last year's report. Since then 464 traces have been sent from Mandla, but the Surveyor-General states that he was unable to deal with more than 100 at a time. A good deal of comparison has been effected in this way, but in the case of seven districts action has been deferred.

Amended topographical sheets in proof were sent for correction to the Deputy Commissioner of Hoshangabad, and the changes in tahsil and district boundaries of that district were duly communicated to the Surveyor-General, as was directed in Secretariat letter No. 4310, dated the 12th November 1896. From some correspondence between this office and that of the Deputy Surveyor-General, I understand that the method of procedure which was suggested by Colonel Strachan some five years ago, has not proved satisfactory owing to heavy pressure of work in the Imperial Survey Office. It is possible that the services of the

small Imperial party now working in these Provinces under an Extra-Assistant Superintendent of Survey will be utilised for this purpose, but if projected changes in the constitution of our present districts should take place in the near future, it would be as well that the issue of new topographical maps of the districts likely to be affected by these changes should be postponed.

37. The deputation of this party to which will be entrusted, the traverse work still remaining to be done in the Province will relieve this office of the responsibility of carrying out traverse surveys by local agency. The party are at present engaged on the traverse survey of excised areas in Betul and Chhindwara, and of the Chhindwara *jagirs*. When these are finished, the ~~Chanda~~ ryotwari tract will be taken up. I am having a complete list compiled of all areas which have never been traversed, or which require retraversing by professional agency. There will be probably work available for some years to come.

Co-operation with Meteorological Department.

38. The rainfall statistics of the Province are compiled in this office, and regularly transmitted to the Meteorological Reporter to the Government of India. The efficiency of rainfall registration was separately reported upon in this office letter No. $\frac{260}{107}$, dated 22nd June 1898.

Path of Hail-storms.

39. In compliance with the instructions of the Government of India, reports on hail-storms which occurred in the undermentioned districts were obtained and submitted along with skeleton maps indicating the course of the storms and their approximate breadth to the Local Government for transmission to the Meteorological Reporter to the Government of India :—

Name of district.	Number of storms.	Date of occurrence.
Hoshangabad	5	29th and 30th December 1896, and 20th, 21st and 22nd January 1897.
Betul	5	28th and 29th December 1896, and 21st January, 29th April and 1st May 1897.

Action taken on requisitions of the Reporter on Economic Products.

40. The statement which follows, contains a list of the various economic products collected for and supplied to the Reporter for the Indian Museum and Imperial Institute, London :—

No.	Name. Botanical.	Name. Vernacular.	Parts collected.	Whence obtained.
1	Ægle marmelos ...	Bael ...	Fruits and leaves.	Superintendent, Government Horticultural Gardens, Nagpur.
2	Acacia arabica ...	Babul ...	Pods.	
3	Bauhinia purpurea ...	Kachnar ...	Bark, root and leaves.	
4	Euphorbia neriifolia ...	Tur ...	Root.	
5	Coriandrum sativam ...	Dhania kothmir ...	Seed and dried plant.	
6	Gardenia lucida ...	Dicamali ...	Resin.	
7	Brassica nigra ...	Rai or mohri ...	Seed.	
8	Curcuma longa ...	Haldi ...	Turmeric.	
9	Cera (wax) ...	Mom ...	Bees'-wax.	
10	Hemidesmus indicus ...	Ananthamula ...	Roots.	
11	Crotalaria juncea ...	Sunn ...	Seeds, rope and hemp.	
12	Gloriosa superba ...	Karkaru ...	Roots.	
13	Citrus medica acida ...	Khatta nimboo ...	Fruits.	

No.	Name. Botanical.	Vernacular.	Parts collected.	Whence obtained.
14	Citrus medica limetta ...	Mitha nimboo ...	Fruits.	Superintendent, Government Horticultural Gardens, Nagpur—(*concld.*)
15	Do. aurantium ...	Suntra ...	Do.	
16	Capcicum frutescens ...	Mirchi ...	Seed.	
17	Bassia latifolia ...	Mohwa ...	Oil-cake.	
18	Arachis hypogæa ...	Mungphali ...	Oil.	
19	Ægle marmelos ...	Bael ...	Snuff box.	
20	Antimony ...	Surma ...	Surma.	
21	Carbonate of lime ...	Chunkhari ...	Limestone.	
22	Eleusine indica ...	Ragi ...	Grain.	
23	Coix lachryma (*Jobi*, Job's-tears),	Kachai ...	Seed.	
24	Indigofera tinctoria ...	Nil ...	Indigo.	
25	Arachis hypogæa ...	Mungphall ...	Nuts.	
26	Linum usitatissimum ...	Alsi-ka khali ...	Oil-cake.	
27	Ipomaca batatas ...	Sakarkand ...	Tubers.	
28	Cucurbita maxima ...	Lal kaddu bhopla ...	Fruits and seeds.	
29	Cannabis sativa ...	Ganja ...	Ganja.	
30	Arsenicum ...	Sumbalkhar ...	Arsenic.	
31	Cyperus pertennis ...	Nagarmotha ...	Botanical specimens with flowers.	Deputy Commissioner, Wardha, and Superintendent, Farm.
32	Curanna zedsaria ...	Kachora ...		Deputy Commissioner, Chanda.
33	Ventilago Madras patna ...	Keoti ...		Deputy Commissioner, Sambalpur.

The Settlement Officer, Chanda, Deputy Commissioner, Nimar, Wardha, Hoshangabad, Narsinghpur, Saugor, Damoh, Seoni and Superintendent, Farm, have been asked to furnish botanical specimens of juar (*Andropogan sorghum*). Enquiries into the properties of the babul tree (*Acacia arabica*) are now complete, and a report, accompanied by botanical specimens, will shortly be submitted to the Reporter. A second set of specimens of objects made of Sola-pith is being collected for the Reporter to enable that officer to identify the hard and soft varieties of Sola-pith from which the objects are made. A small collection of ornamental pottery and of articles in every-day use in these Provinces, was presented to the Officer in charge, Economic and Art Section, Indian Museum, Calcutta.

41. The returns relating to the production of minerals were compiled in this office and submitted to the Reporter through the Provincial Secretariat accompanied by reports on the Iron industry of these Provinces furnished by Deputy Commissioners and Forest Officers. The reports were considered too detailed for publication in the review of mineral productions in India for 1897, and have been brought together in the form of an Agricultural Ledger (No. 17 of 1890).

Veterinary work.

42. The work of the Veterinary Department was separately reported upon by Veterinary-Lieutenant Trydell, Superintendent, Civil Veterinary Department. His report was submitted with a review to the Chief Commissioner with this office letter No. $\frac{3014}{119}$, dated 16th July 1898; but this only brought matters up to the end of March of that year, and it is necessary to supplement it by a brief account of the operations of the Department since that date.

43. The office of Superintendent, Civil Veterinary Department, was held by Veterinary-Lieutenant Trydell up to the 24th March 1898, and from that date up to the 22nd June 1898 by Veterinary-Lieutenant Farmer. The office

remained vacant during the last three months of the year, and has not yet been filled up.

Horse-breeding.

44. There are at present three horse stallions in the Provinces: two (Yakub Khan and Shamsher) at Saugor, and one (Sultan) at Narsinghpur; also a donkey stallion (Burj) at Saugor.

The usual statement showing the number of mares served by the horse and donkey stallion is given below:—

District.	Name of stallion.	No. of mares served during quarter ending				
		December 1897.	March 1898.	June 1898.	September 1898.	Total.
Saugor ...	Yakub Khan	15	4	15	8	42
	Shamsher	...	13	9	4	25
	Burj (donkey)	3	6	5	6	20
Narsinghpur ...	Sultan	4	...	12	2	18

Shamsher was sent to the district only in January 1898. Information regarding the produce is at present very incomplete. Since the close of the year an Arab horse (Fussy) has been presented to the Department by Mr. A. B. Napier, *I.C.S.*, Settlement Officer, Bhandara. The stallion will be employed at Saugor for the present.

The Deputy Commissioner, Damoh, has furnished the following list of mares suitable for breeding in the Damoh district:—

1st class	78
2nd „	225
3rd „	1,884
Total ...	2,187

In the event of the re-appointment of a Superintendent to these Provinces, he will be asked to visit the district and furnish an expert opinion on the expediency of renewing operations there. The question as to the feasibility of holding an annual Horse Fair at Garhakota or elsewhere, in the Saugor district, has been deferred until such time as the present agricultural depression has passed away; and, indeed, much success in horse or mule breeding cannot be expected at present, since those very districts in which there is most hope of ultimately establishing the industry are at present the most depressed in the Province.

Veterinary Dispensaries.

45. There were four Veterinary dispensaries in these Provinces at the close of the year, a new dispensary having been established at Bilaspur on 11th July 1898. The extent to which these dispensaries have been used by the public is shown by the following figures which are contrasted with those of the previous year:—

Districts.	Number of cases treated.				Average daily attendance.	
	Horned cattle.	Horses.	Other animals.	Total.	1897-98 (October 1897 to September 1898).	1896-97 (October 1896 to September 1897).
Nagpur	2,459	1,770	1,379	5,608	21·57	19·00
Raipur	972	473	406	1,851	16·41	17·67
Wardha	450	120	52	622	15·06 monthly.	5·35
Bilaspur	38	55	31	124	41·33	...

The daily attendance at the Nagpur Dispensary has improved, while at the Raipur Institution there is a slight falling off. The dispensary at Wardha shows very promising progress. The institution has been placed under the management of a Committee consisting of members of the District Council who, I believe, take a real interest in its welfare. The Bilaspur Dispensary is quite in its infancy, and has made a fair start.

46. The Commissioners of the Chhattisgarh and Nagpur Divisions, and the Deputy Commissioners of Raipur and Wardha, were lately asked to consider the question of levying fees at Veterinary dispensaries. As regards Wardha, both the Deputy Commissioner and the Commissioner deprecate the levy of any fees whatsoever until the institution has established itself and won the confidence of the people. On the other hand, in the case of Raipur, the local officers are in favour of the continued levy of fees at the present scale, which was determined by the Veterinary Dispensary Committee acting on behalf of the District Council.

The Commissioner of the Chhattisgarh Division traverses the opinion expressed by the late Superintendent, Civil Veterinary Department, (para. 36 of his Report for 1897-98,) that the levy of fees has discouraged people from bringing their animals for treatment at the dispensary. He points out that the scale of fees charged is very moderate and was approved by the native gentlemen on the Committee, and urges that free medicine to all, rich and poor combined, with permission to the Veterinary Inspector to engage in private practice, is likely to lead to abuses. The whole question has been referred for the orders of the Administration, the object in view being to obtain some return from the well-to-do town population, while free treatment is accorded to animals brought by the cultivating classes. It may be added that fairly substantial fees are levied at Nagpur from the European residents, and well-to-do people of the city.

47. Since the close of the year two more Veterinary dispensaries have been opened at Hoshangabad and Mandla respectively. It has also been decided to establish one at Jubbulpore. A building is now ready, and it only remains to appoint a Veterinary Assistant. The opening of similar institutions at Saugor and Bhandara has been temporarily postponed.

Recruitment and Training of Veterinary Inspectors.

48. Of the two candidates who were deputed in 1897 to the Ajmere Veterinary School for a two years' course, one has passed; the other failed to secure the prescribed number of marks in one subject. The Principal of the School speaks well of him, and has recommended his being allowed to continue his course there. This is being referred for the orders of the Chief Commissioner. In the meantime he is doing duty under the Veterinary Inspector at Nagpur. No new candidates were sent to the School in 1898, as applicants were not forthcoming in time. Arrangements are now being made to send two or three new students this year, and the Principal of the School has been applied to for the services of one or two passed Veterinary Assistants who may be in need of employment.

49. The Veterinary Assistant, Nagpur, visited seventy-four villages during the year. The Veterinary Inspector at Raipur is reported not to have done much in the way of suppressing outbreaks of diseases in the interior of the district owing, it is said, to the infrequency of complaints of cattle-disease. The Deputy Commissioner of Bilaspur sent out the newly-appointed Veterinary Assistant to a circle, whence frequent reports were received of heavy cattle mortality, but he returned with the statement that the malguzars refused to incur the expenses entailed by segregation.

50. With the opening each year of new Veterinary dispensaries, better arrangements for their professional supervision will be imperatively necessary. Unless a Superintendent of the Civil Veterinary Department is regularly appointed to this Province, and even in the event of his appointment, a senior Veterinary Assistant to inspect these dispensaries, guide and advise the junior Assistants, overhaul their management and check the amount of touring they do and its usefulness, is certainly required.

Enumeration of live-stock and registration of cattle-disease.

51. Closely akin with this somewhat meagre account of the work done by the Veterinary Department are the statistics and information furnished by Deputy Commissioners regarding agricultural live-stock and the registration of cattle-disease.

The following statistics of village live-stock are as yet far from accurate, but in those districts (marked with an asterisk in the statement below,) where the patwaris have been employed solely on Land Record work, they are probably more reliable than elsewhere. Contrasted with the figures of the previous year, the number of plough-cattle show a falling off in all districts, except Jubbulpore, Hoshangabad, Bhandara, Chanda, Bilaspur and Sambalpur :—

Names of districts.	1896-97.	1897-98.	Increase or decrease.
* Saugor	108,777	91,923	—16,854
* Damoh	81,505	78,590	—2,915
* Jubbulpore	169,733	171,374	+1,641
* Mandla	68,330	66,036	—2,294
Seoni	83,052	81,435	—1,617
* Narsinghpur	54,401	53,078	—1,323
* Hoshangabad	147,008	151,808	+4,800
Nimar	90,222	51,358	—38,864
Betul	97,677	87,188	—10,489
* Chhindwara	123,290	122,668	—622
* Wardha	95,708	93,115	—2,593
* Nagpur	172,443	154,316	—18,127
Chanda	144,794	184,878	+40,084
Bhandara	176,064	181,903	+5,839
Balaghat	91,859	82,874	—8,985
Raipur	448,865	440,728	—8,137
Bilaspur	340,566	724,909	+384,343
* Sambalpur	147,364	181,446	+34,082
Total ...	2,641,658	2,999,627	+357,969

This enumeration as it becomes yearly more accurate will afford a sound basis for estimating the total cattle mortality. But, as remarked by my predecessor, the cause of mortality will remain in doubt until registration of deaths from the various diseases is undertaken. For this we require a skilled diagnosis which is not forthcoming, though in time it might become as reliable as are the present human vital statistics.

52. The number of plough-cattle decreased in all districts of the Jubbulpore Division except Jubbulpore. The Commissioner of the Jubbulpore Division states that he has satisfied himself by local enquiries that the Saugor statistics do not exaggerate the fall. Mr. Fuller remarks :—

"The explanation lies in the market offered to cultivators by the extraordinary development of an export trade in *jerked* meat from this district for consignment to Burma. The people have, for years past, been familiarised with the idea of selling their cattle to butchers by the *Rohas* fair of Garhakota, which, originally started in the days of native rule, offered an occasion for the disposal of useless animals to the agents of hide merchants who attended the fair in large numbers. Part of the fair ground was a cattle shambles and the Municipality derived a considerable income from the trade. To the hides has now been added the flesh as an exportable commodity, and at Saugor, Khurai, Rahatgarh and other places in the district,

colonies of butchers have settled, who purchase cattle by thousands. The number of cattle slaughtered at Khurai alone during 1896-97 was over 5,000. Till recently the butchers only offered a few rupees per head, but lately their prices have risen to Rs.25 or even Rs.30 for a beast in good condition, and the ryots are exposed to a powerful temptation to sell useful plough-cattle."

53. In the other districts in which the returns should be fairly accurate the decline is comparatively small, while in Hoshangabad and Sambalpur an increase is shown. The latter district has enjoyed unbroken prosperity, but the Hoshangabad figures are doubtful. The late Deputy Commissioner believed the mortality of cattle in the famine to have been very large, and the figures of the year might be taken to indicate a replenishment of plough-cattle which the known circumstances of the district render improbable, unless the mortality of the famine year was much less than was previously supposed.

54. Registration of cattle-disease by patwaris has only been attempted in Nagpur and Wardha. The number of deaths reported in Nagpur 11,950 is certainly under-stated. In Wardha the cattle mortality is reported to have been 21,560 against 28,302 in the preceding year. Foot and mouth disease was sporadic in the Nerbudda Valley and Chhindwara, and there were some outbreaks of anthrax and rinderpest in some districts ; but, on the whole, the year does not seem to have been specially unhealthy one for cattle. The Raipur district was particularly free. Outbreaks of cattle-disease are now reported by telegram, but it is not possible to depute Veterinary Assistants to the spot except in special cases, or when the outbreak occurs in the district in which he is posted. The information regarding cattle-disease given in the district reports is necessarily of a very general character.

55. The attitude of the people in regard to segregation and treatment of diseases, is decidedly passive. For foot and mouth disease cattle are made to stand in mud or sand, and external remedies are applied, but for the severer forms of disease spells and incantations, as the Commissioner of the Nerbudda Division says, are chiefly relied on. The Deputy Commissioner, Sambalpur, states that if a man administers remedies to a sick cow which afterwards dies, he is considered liable to pecuniary penance for the sin of causing its death. If this were the case in all districts, the exponents of Veterinary science might have a heavy burden to bear. On the other hand, in Narsinghpur, it is said that the practice of segregation started in the Court of Wards' villages by a former Deputy Commissioner, is gaining ground. If there is one science which ought to appeal to the religious sympathies as well as to the material interest of the Hindu agricultural community, it is Veterinary science, and the leaders of the cow-protection movement have a great opening before them if they like to recognize it.

56. In respect to the dissemination of knowledge among the people, it may be mentioned that the stock of 1,000 copies of Syed Sirdar Shah Gilani's Manual on cattle-disease in Hindi has nearly been sold out by Deputy Commissioners, and it may prove necessary to obtain a further supply.

In November 1897, Veterinary-Lieutenant Trydell drew up a leaflet of instructions for the preparation of the spread of contagious and infectious diseases among village cattle by means of segregation, fumigation, &c. The instructions have been approved with one addition by the Inspector-General, Civil Veterinary Department. Ten copies in English of these instructions have been supplied to Deputy Commissioners who have been asked to state the number of copies in English and in vernacular required by them.

Co-operation with the Statistical Department.

57. The annual agricultural statistics have been prepared as in previous years in this office and submitted to the Director-General of Statistics.

The areas for which accurate statistics are available, have been still further increased this year by the extension of survey operations in the Chanda and Chhattisgarh zamindaris. The quarterly and annual returns of rail-borne traffic

were received as usual and submitted to the Statistical Bureau. The only changes made in the character of the returns, are :—

(1) the amendment of the sub-heads under "Liquors;"

(2) the exhibition of the trade in "Mustard and Rape oil;" and

(3) the addition of the sub-heads "Carpets and Rugs and other sorts of manufactures" under "Wool manufactured."

For local purposes the trade under Mohwa was separately tabulated. Registration of road traffic was resumed on the Mungeli-Nandghat road with effect from the 9th December 1898.

Crop Forecasts.

58. The usual forecasts for wheat, linseed, til and cotton have been submitted in the prescribed forms. In para. 46 of the Report for 1896-97 my predecessor referred to the trial proposed to be made in Nagpur, Wardha, Nimar and Chhindwara of having a special field-to-field inspection in October with a view to accurately ascertain the areas under cotton. The experiment was carried out and the Deputy Commissioners of the districts concerned, report that no difficulties were experienced. The further extension of the experiment is under consideration and will be reported in due course.

59. The results of the crop experiments conducted during the four years 1892-93 to 1895-96 were reviewed by Mr. Carey in his note, dated 4th April 1898. A report on the working of the local rules was also furnished. The number of crop cutting experiments conducted during the year under report was 1,658 as compared with 1,675 in the previous year.

The extent to which the various classes of Officers have contributed is as follows:—

Deputy Commissioners ...	...	...	...	47
Assistant Commissioners ...	...	...	...	82
Extra-Assistant Commissioners	...	...	...	540
		Total	...	669
Settlement Officers ...	...	...	...	215
Assistant Settlement Officers ...	...	...	...	762
Superintendents of Land Records	...	...	...	11
Superintendent, Government Experimental Farm		...	...	1
		Total	...	989
		GRAND TOTAL	...	1,658

Of these crop cuttings, 1,122 were made with *kharif* and 536 with *rabi* crops. Other experiments were also carried out by Officers of inferior status, but these were not compiled.

SECTION V.

SCIENTIFIC AND LOCAL ENQUIRY UNDER PROVINCIAL DIRECTION.

60. The Experimental Farm at Nagpur under Mr. R. S. Joshi is the only one maintained in these Provinces. Mr. Joshi also looks after the Telinkheri reserve, and is Principal of the Agricultural Class as well as Curator of the Nagpur Museum. For experimental purposes the rainfall was, as in the previous year, unsuitable for the cold-weather crops. It was much below the average, and the virtual absence of rain in the latter part of the year rendered it impossible for manures to be properly assimilated, green-manuring in particular being shown to be absolutely harmful. The rust-resisting power of various kinds of wheat can not be tested in dry seasons of this kind. Phosphatic manures hold out a promise of proving specially beneficial to oil-seeds, but as the agriculture of the country is at present constituted, experiments with these and other chemical manures are rather of an academic than a practical interest.

61. On the other hand, the experiment instituted in the previous year of manuring with night-soil on the system of shallow pitting initiated by Conductor Meagher, of Allahabad, is a thoroughly practical one, and was continued with repeated success. In the previous year a mixed crop of cotton, juar, bajri and ambari had (except ambari) given an excellent yield. In the present year juar and rice were the crops sown; the juar yielded at the rate of 2,180lbs. to the acre and the rice at 2,300lbs. Experience will show how long the benefit of this system of manuring endures, but it is even now certain that it is both cheap and productive. It of course requires a large area for the disposal of any considerable quantity of sewage, but this is a distinct advantage if the prejudice against manuring with night-soil can be removed. The only drawback to the system is that for several days after pitting the exhalations from the land are, within a limited radius, decidedly offensive. It is, therefore, best suited for fields which lie away from human habitations and traffic. Arrangements are being made for the extension of the experiment in municipal areas.

62. Experiments made to test the practices of the country in growing mixed crops, birra (wheat-gram) and cotton-tur, merely go to show that the people in selecting these mixtures have profited by accumulated experience. For instance, birra is largely grown in the north; and hardly at all in the Nagpur country. We do not find any gain in the Farm from growing birra. Whereas the mixture cotton-tur, so common in the Nagpur country, is found to pay on the Farm also. We have nothing to teach them in this matter.

63. The experiment with tillage again shows that on the Nagpur black-cotton soil ploughing and bakharing in alternate years, give better results than simple ploughing or simple bakharing.

In the experiments with varieties of cotton, the Egyptian varieties showed themselves unable to grow without irrigation; the rain of the monsoon failed to keep them in good condition after the cold weather. An experiment with Egyptian cotton in Betul has also so far been unsuccessful, but further trials are being made.

64. A large number of varieties of wheat, chiefly crosses, were received from New South Wales, and those which thrived best will be sown again. A series of years is needed to test these strains. The experiments are at present still scarcely beyond the laboratory stage.

65. In regard to the experiment of extending rice cultivation in the Pagara *jagir* of the Chhindwara district referred to in para. 52 of last year's report, the Deputy Commissioner, Chhindwara, writes as follows:—

"Two khandis and 19 kuros of rice, including various varieties, were sown, and the result-
"ing crop realised 6 khandis 19 kuros, or a net yield of 4 khandis. The Seoni rice did fairly well,
"but the other varieties were not successful. One reason for failure is undoubtedly to be found
"in the fact that the irrigation tank did not hold water sufficiently, or long enough, to give a
"good supply of water when the crop was in full growth; the bund of this tank has been con-
"siderably raised this year, and it is to be hoped that the supply of water will now be ample.
"The number of families of Seoni Gonds has risen from 5 to 9, and I think, if any reasonable
"measure of success attends our efforts, they will settle permanently. The area for rice cul-
"tivation has been extended and new bundhis constructed. The new land will not, however,
"be fit this year for anything but the best kind of local rice. The stock of Seoni rice in
"hand will be sown only in the old bandhis. Rice will be sown broadcast and transplanted
"in order to discover which method seems most suited to the locality. The rice-fields will be
"given on *batai* as far as possible to the Seoni people.

"With a view to getting the fields manured, some Banjaras in the place have been in-
"duced by the remission of grazing-fees on 20 bullocks to camp their *Tanda* on the rice-land.
"I hope to get good results from this. Four buffaloes have also been purchased by the
"estate. They are apparently superior to bullocks for work on rice-land, and they will be
"used for poughing and making the slush necessary for the transplanted rice."

Experiments with Japanese Clover.

66. A packet of Japanese clover (*Lespedeza stricta*) was obtained from England, and a small supply was sent to Mr. Standen, Settlement Officer, Betul. A fresh trial is being made, the time of sowing being altered.

Protection of Crops from damage by Trees.

67. Experiments to test the treatment found successful at the Nagpur Experimental Farm of digging trenches between trees and crops in their vicinity in order to save the latter from the loss of moisture otherwise absorbed by the surface roots of the trees, were made in Betul, Bhandara and Balaghat. In Betul the trenches were dug during the rains of 1898, and the results were not known at the time of the submission of the Deputy Commissioner's report. The three experiments made in the Sakoli tahsil of the Bhandara district were conducted after the crops were cut. In Balaghat a considerable number of experiments were made by the Settlement Staff and the Tahsildar of Balaghat, and the results are stated to have been very successful and to have been generally appreciated by the malguzars and tenants. In Wardha the Revenue Inspectors of all circles, except Ashti, report that experiments have been made in their circles, but have not mentioned the number or the results.

The Deputy Commissioner, Nagpur, reports that all endeavours on the part of the Land Record staff to induce cultivators to try the experiment having proved in vain, the Manager of the Susthanik Estate, which is under the management of the Court of Wards, was asked to try the experiment on some of the villages of the estate. He did so on fields bearing *kharif* crops, but without any beneficial effect. The Manager, it is said, has been asked to try the experiment on fields sown with *rabi*.

It is useless trying this experiment in *kharif*-growing fields, a fact which the Manager ought to have known. The want of agents with some scientific training is sadly felt. Blundering experiments indis criminately made do positive harm.

The only systematic action taken has been in Hoshangabad. No less than 95 of these experiments were made in the Sohagpur tahsil. In the case of 8 made early in the season, beneficial results are reported. The later cases will be reported on subsequently. A record has been kept of the fields in which the experiment has been tried.

68. Acclimatised Jaunpur maize seed was supplied to the undermentioned gentlemen :—

(1) The Tahsildar, Lakhnadon (in two bags, for free distribution).

(2) The Deputy Commissioner, Betul.

(3) The Deputy Commissioner, Chhindwara.

(4) The Tahsildar, Pachmarhi.

Guinea-grass shoots for planting out on nala sides to supply fodder were supplied to Mr. Jamsetjee N. Tata, of Bombay. Varieties of cotton, wheat and linseed, &c., were supplied to the following gentlemen:—

(1) Mr. N. C. Mukerjee, Assistant Director of Land Records and Agriculture, Bengal.

(2) Mr. Parasram Seth, of Bahadurpur, district Nimar.

(3) Mr. Ambadas Atmaram Deshpande, of Ashti, district Wardha.

Implements.

69. The only new machine which was given a trial during the year was a Hay Press. The machine was purchased from the Manager, Tramway Company, Bombay. The machine works very satisfactorily, and the quality and aroma of the pressed grass is preserved in its compressed state. A larger quantity of grass so compressed can be stored in a limited space.

70. In September 1898, the Superintendent of the Farm was sent to Saugor with the object of conducting some experiments in extirpating the *kans* weed (*Saccharum sponteneum*) in the Saugor district. Three Swedish ploughs were also sent to the Deputy Commissioner, Saugor. Mr. Joshi found that deep ploughing with powerful cattle, with a body of labourers to pull out the upturned roots, was of some efficacy; but the people seem neither to have the energy, means, nor cattle for the exertions required.

The prevalence of this *kans* is now the most serious agricultural defect we have to contend with in the districts of Saugor, Damoh and Hoshangabad.

Mr. Fuller speaks of the beneficial results obtained in the two former districts by embankment and the flooding of the fields whereby the *kans* roots rot in course of time. This is of course a remedy which cannot for want of means be universally applied, but it would prove a most useful form of relief work if such should be needed

In addition to their depleted resources, the people are suffering from shattered nerves, the result of absolute loss of confidence in the regularity of the seasons. The restoration of confidence can only be brought about by a recurrence of normal conditions of weather ; when once this result is obtained, steady improvement will follow :—

Tussar Cultivation.

71. The Forest Divisional Officer, Chanda, reports that there is a decrease of 74 in the number of tussar *baris* as compared with the previous year, of 418 acres in the area under cultivation and of Rs.102 in the rent paid to the department. This decline, Mr. Lowrie explains, is as follows :—

"The silk industry in this Division is generally carried on in excised areas, and as these "latter are gradually being cleared and brought under cultivation, and as the Dhimars are "finding the industry not sufficiently remunerative, it is slowly sinking into insignificance."

I fancy that the second reason is the real one at work. In fact, unless the 74 *baris* abandoned were actually in an area cleared during the year (which is not stated), it does not appear how the cultivation of excised forest, which has not yet proceeded very far, can have affected the industry. In 1892 there were 17,000 acres in the Chanda forests stated to be fit for tussar cultivation.

Fuel and Fodder reserves.

72. The fuel and fodder reserves in Raipur are in charge of the District Council, to which body the reserves have been leased at a nominal rental for a term of five years, from 1st April 1895. The total expenditure during the year on them was Rs.230-8-2 and the income was Rs.584. The income is derived from the sale of grass. The fencing and ditching which was carried out during the famine is said to have considerably enhanced the value of these reserves, and a net income of about a thousand rupees is expected in 1898-99. The introduction of *gandhri* grass, which is used for thatching purposes and fetches a good price, is projected.

73. The Deputy Commissioner writes as follows about the reserves in the Bilaspur district :—

"The income from the sale of grass during the year was Rs.900-9-8 against Rs.100 in the previous year.

"The increase is due to the excellent yield of grass in the year under report. The crop "of 1896-97 was damaged by the heavy rains of that year. Local watchers are appointed at "different rates of pay according to the importance of the reserve. The reserves are under "the direct management of the Tahsildars. I find in Mr. Cooke's tour diary that the people "about Patharra complained bitterly of their grazing grounds having been included in the "reserve. They had with it lost a tank ; their own grazing grounds had been exhausted, "and they were unable to keep as many cattle as formerly. They are very discontented, and "offer to pay any grazing dues that might be demanded. I have myself had an application "from them to this effect, but apparently this is contrary to the idea with which these "reserves were started. Mr. Cooke adds, so long as these reserves do not pay expenses they "are more likely to prove a warning than a lesson to the malguzars of the neighbourhood. "As they are unfenced, cattle trespass on them, and this gives the watchers many chances of "illicit profit. Two or three that I have seen are mere stretches of sheet rock on which it is "idle to expect grass to grow."

The Settlement Officer of Bilaspur will be asked to report on the question of these reserves, and the best means for their management with respect to the needs of the community. They were acquired on payment of compensation to the people whose land was taken up, and a previous Deputy Commissioner had a hand in their selection.

74. The Deputy Commissioner, Sambalpur, writes as follows about the reserves in the Sambalpur district:—

"There are 18 such reserves in the district. They are under the management of the "village punchayets, and patwaris and Revenue Inspectors are supposed to bring to notice "any breach of the rules about the removal of fuel and fodder. Two such cases have been "brought to notice, but I fear the patwaris do not yet realise their responsibilities in this "matter.

"In addition to the jungles reserved as above, there are *khasra* numbers reserved as *gochar* "or grazing land, and ordinary *khasra* forests for *nistar* or user of the villages. Cases of "encroachment on *gochar* lands are not at all uncommon, and several persons have been "prosecuted for them during the year. As regards *khasra* jungles, there have been no com- "plaints by ryots of their being prevented by Gaontias from exercising their free *nistar* rights, "but the Gaontias themselves have, I fear, not protected Government interests in their jungles; "for in most villages the *khasra* jungles are almost entirely denuded of jungle and only low "scrub remains. This evil has been going on, no doubt, a long time, and Gaontias used to, "and some still do, believe that the *khasra* jungles are their own property, hence timber from "*khasra* jungles used to be taken for sale. I have had some cases prosecuted under section "379.

"Patwaris and Revenue Inspectors are supposed to bring to notice any cases of cutting "of *khasra* jungle for sale, and the Forest Officer has given assistance in this respect. But, "I fear, most of the *khasra* jungle is by this time spoilt beyond remedy and is only fit for "extension of cultivation and grazing, for which no doubt it will sooner or later be required."

The necessity for enforcing the *wajib-ul-arz* would seem to have been overlooked by previous Deputy Commissioners of the district. That document gives no ground to the Gaontia to believe that the *khasra* forests are his private property. At the approaching settlement of Sambalpur, the treatment of these areas will have to be again considered.

75. The income of the Telinkheri reserve during the year was Rs.324-11-0 and the expenditure, Rs.141. A site for a well, from which to irrigate the reserve, has not been found yet.

SECTION VI.

Agricultural Education.

76. The measures that had been taken for the improvement of agricultural education were detailed in para. 60 of last year's report.

An annual course of practical agriculture to 99 Schoolmasters and 40 Normal School students, and the introduction of agricultural readers in village schools with simple apparatus to illustrate the lessons were the steps adopted, and they have been continued in the past year. I understand that a recent conference of officers has agreed upon some important modifications in the course of instruction followed in village schools. Mr. Carey took the opportunity allowed by his tours of occasionally examining village schools with a view to see how agricultural lessons were taught, and how far the boys assimilated them; and the opinion, which he formed, was that the boys required more practical illustration in the field of the lessons which they learnt in class. One master had been at special pains in the up-keep of the school garden, and had made a collection of plants to illustrate the lessons, and those who had been through the practical course in Nagpur were able to make their instruction more interesting than those who had not. These are, of course, small beginnings, and no one supposes that we are going to immediately improve the agriculture of the country by the lessons taught at the village school. It is the fate of small beginnings to excite ridicule; but, if it is a good thing to give primary education to the ryot's son, it must surely be a good thing that the education should be directly concerned with the pursuit of his lifetime. If we do not improve his knowledge of agriculture, we may at least make him think.

77. The Scholarship, tenable in the Poona College of Science, has been awarded to Bhaya Lal, one of the students of the Nagpur Agricultural Class, who showed a special aptitude for scientific studies. In the junior class of eleven students a Kurmi from Hoshangabad has been *facile princeps*.

SECTION VII.

Publication of Agricultural information.

78. Much of the work done has been enumerated in Section IV.

Apart from the usual crop forecasts, trade returns, agricultural statistics, &c., described in that section, the following papers relating to agriculture were prepared and published by this Department during the year under report:—

(1) Note on the crop statistics of 1897-98.

(2) A list * of agricultural implements and machines which were tested during the year ended 30th September 1898, and of those in use which were reported to have met with more or less marked success during the year.

79. The following papers were received during year from other Provincial Departments:—

(1) Monograph on "Cotton fabrics of Bengal."

(2) Monograph on "Woollen fabrics in the Hyderabad Assigned districts."

(3) Bengal Bulletin No. 4, "Note on the Mustards cultivated in Bengal."

(4) Assam Bulletin No. 4, "Note on the cultivation of Black-pepper in Assam."

(5) Assam Bulletin No. 5, "The staple crops of the Khasia and Jantia hills."

SECTION VIII.

Final.

Fairs.

80. The usual statistics relating to the more important fairs were collated and published in the *Central Provinces Gazette.*

Extension of Communications.

81. An addition of 48 miles was made to the Railway system of the Provinces during the year by the extension of the Indian Midland Railway from Saugor to Damoh. Road construction has added 324 miles of new roadway and 540 miles have been raised in class.

Extension of irrigation.

82. During the course of his cold-weather tour, a part of which lay in the Chanda zamindaris, Mr. Carey noticed the absence of tanks and "boris" (ponds) in Ambagarh chowki and Panabaras, and addressed the Commissioner of the Nagpur Division on the subject in his letter No. C 4, dated 4th January 1899. Mr. Carey remarked that the present irrigation facilities in these two estates are of the most limited description, and that there appeared to him great scope for the construction of tanks with a view to the irrigation of the rice crop and the due development of the country.

The fact that these estates are now under the Court of Wards, gives Government a chance of pushing on irrigation works in them.

Museums Art and Sciences.

83. The number of museums in the Central Provinces remains the same, *viz.*, two, the Provincial Museum at Nagpur and the local one at Raipur. The institution at Nagpur is in charge of the Agricultural Department. The budget grant for the year 1897-98 was Rs.1,552 from the Provincial revenues. The actual expenditure was Rs.849-14-2 on account of salaries (which included Rs.62-14-10 for grain

* In accordance with the instructions contained in Revenue and Agricultural Department, Circular No. 13-72-16, dated 3rd May 1899, this list will in future form an appendix to the Land Record Report.

compensation allowance) and Rs.1,060-8-3 on account of contingencies. The balance at the close of the year was Rs.3,807-11-0. The sum of Rs.907-5-0 was spent on the purchase of a large number of specimens of artistic work made in all parts of India as well as in several districts of the Central Provinces. Twenty specimens of coins were also added to the Museum. During the year the Museum was visited by 141,598 persons, of whom 69,488 were men, 46,591 were women, and 23,709 were children. This is a decrease of 10,131 in the total number of visitors.

The Raipur Museum is in charge of the District Council. The year opened with a balance of Rs.596-13-0 and the total receipts of the year amounted to Rs.550-10-0. The chief item of expenditure, that of establishment, amounts to Rs.361-8-0. This shows an increase of Rs.24 over the figures for 1896-97, the increase being due to compensation for dearness of grain. Only Rs.20-11-9 were spent during the year on new exhibits. During the year the Museum was visited by 109,910 persons, or an increase of Rs.29,290 over the number for last year.

Review of Registration Report.

84. The report on the working of the Registration Department was forwarded to this office for perusal and was returned with such remarks as appeared to be called for.

85. It is matter for regret that the materials for this Report were not available in time for my predecessor, Mr. Carey, to write it. It deals with a year which closed six months before I took over charge of the office of Director, and it is impossible for me as a mere compiler to make those useful comments and criticisms which personal familiarity with the history of the year and several years' management of the Department would have enabled my predecessor to supply.

I have the honour to be,

SIR,

Your most obedient servant,

R. H. CRADDOCK,

Offg. Director of Land Records and Agriculture,

Central Provinces.

Punishments inflicted on Patwaris

Nature of offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsinghpur.		Hoshangabad.		Nimar.	
		Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Non-residence	Dismissed ...	1	...	...	...	2	...	3	...	...	...	1	...	8	...	...	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	23	109 12 0	...	...	25	95 4 0	18	107 4 0	...	...	10	39 0 0	5	40 0 0	...	...
	Suspended ...	1	...	...	...	2	...	3	...	...	...	6	...	...	...	1	...
	Transferred ...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	25	109 12 0	2	...	29	95 4 0	24	107 4 0	...		17	39 0 0	13	40 0 0	1	...
Misconduct ...	Dismissed ...	3	...	6	...	1	...	..	...	1	...	1	...	...	...	1	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	...	...	26	34 6 0	5	23 0 0	..	...	...	...	...	...	1	30 0 0	4	13 0 0
	Suspended ...	...	...	1	...	5	...	...	...	...	...	1	...	1	...	2	...
	Transferred ...	...	...	...	...	...	...	1	...	...	...	5	...	1	...	...	...
	Total ...	3	...	33	34 6 0	11	23 0 0	1	...	1	...	7	...	3	30 0 0	7	13 0 0
Neglect of work (including inefficiency).	Dismissed ...	6	...	1	...	3	...	...	...	1	...	...	...	...	...	...	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	24	98 0 0	31	163 15 2	26	158 0 0	47	260 12 0	31	121 2 0	34	166 1 5	61	256 4 0	3	15 11 11
	Suspended ...	4	...	1	...	11	...	2	...	1	...	...	...	4	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	Total ...	34	98 0 0	33	163 15 2	40	158 0 0	49	260 12 0	33	121 2 0	34	166 1 5	66	256 4 0	3	15 11 11
Dishonesty ...	Dismissed ...	...	...	...	...	5	...	6	...	1	...	2	...	6	...	...	...
	Degraded ...	...	...	..	...	...	...	...	...	..	...	...	...	...	...	...	...
	Fined ...	3	18 0 0	...	...	...	...	...	...	...	...	...	...	1	21 10 8	1	4 0 0
	Suspended ...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
	Transferred ...	..	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
	Total ...	3	18 0 0	..	...	6	...	7	...	1	...	2	...	7	21 10 8	1	4 0 0
Pecuniary embarrassment.	Dismissed ...	...	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	...	...	...	...	...	...	1	...	3	...	...	...	...	...	7	...
Physical inability to stand out-door work.	Dismissed ...	...	...	...	...	...	...	...	...	...	...	4	...	1	...	...	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...
	Transferred ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total ...	...	...	...	...	...	...	...	...	...	...	5	...	1	...	...	...
Grand Total	Dismissed ...	10	...	7	...	11	...	10	...	6	...	8	...	15	...	1	...
	Degraded ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined ...	50	225 12 0	57	198 5 2	56	276 4 0	65	368 0 0	31	121 2 0	44	205 1 5	68	347 14 8	8	32 11 11
	Suspended ...	5	...	2	...	19	...	5	...	1	...	8	...	5	...	10	...
	Transferred ...	...	...	2	...	...	...	2	...	...	...	5	...	2	...	...	...
	Total ...	65	225 12 0	68	198 5 2	86	276 4 0	82	368 0 0	38	121 2 0	65	205 1 5	90	347 14 8	19	32 11 11

* In 8 cases

† Pay

during the year ending 30th September 1898.

Betul.		Chhind-wara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
...	...	3	...	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	21	...	3	...	...	...
...	...	8	†	3	41 0 0	3	30 11 6	...	...	...	...	...	...	...	...	...	...	2	48 0 0
1	...	1	...	1	...	...	...	...	...	...	...	1	...	3	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	...	12	...	4	41 0 0	4	30 11 6	2	...	...	...	1	...	24	...	3	...	2	48 0 0
2	...	1	...	6	...	1	...	3	...	...	...	...	...	8	...	9	...	3	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	28	...	...	...
9	36 14 3	...	...	14	71 2 0	2	5 8 0	...	...	...	...	30	164 1 4	51	430 5 7	30	250 7 0	11	25 14 11
...	...	...	...	...	...	...	...	...	...	...	...	5	...	10	...	5	...	...	...
...	...	3	...	...	...	...	...	...	...	...	...	...	...	1	...	5	...	1	...
11	36 14 3	4	...	20	71 2 0	3	5 8 0	3	...	...	...	35	164 1 4	70	430 5 7	77	250 7 0	15	25 14 11
...	...	4	...	2	...	1	...	...	...	5	...	...	...	12	...	18	...	3	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...
14	38 12 0	16	96 11 8	49	209 13 0	45	258 1 11	6	45 5 0	66	533 13 4	5	20 4 4	135	511 13 0	77	251 10 8	54	125 8 0
...	...	...	...	6	...	3	...	...	...	4	...	...	...	7	...	1	...	1	...
...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...
14	38 12 0	20	96 11 8	68	209 13 0	49	258 1 11	6	45 5 0	75	533 13 4	5	20 4 4	156	511 13 0	107	251 10 8	61	125 8 0
...	...	4	...	...	...	1	...	...	...	...	...	...	...	3	...	...	...	1	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	12 0 0	...	...	...	...	1	5 0 0	...	...	...	...	...	...	6	96 8 0	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	12 0 0	4	...	...	...	2	5 0 0	...	...	...	...	...	...	9	96 8 0	...	...	1	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
...	...	4	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	4	...	1	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...
2	...	16	...	8	...	4	...	5	...	5	...	...	...	27	...	27	...	7	...
...	...	*	...	...	...	...	...	...	...	...	...	...	...	23	...	31	...	...	...
25	87 10 3	24	*96 11 8	66	321 15 0	51	299 5 5	6	45 5 0	66	533 13 4	35	184 5 8	192	1,038 10 7	107	502 1 8	67	199 6 11
3	...	1	...	7	...	3	...	...	...	4	...	6	...	20	...	17	...	2	...
...	...	3	...	2	...	...	...	...	...	...	...	...	...	1	...	5	...	4	...
30	87 10 3	44	96 11 8	83	321 15 0	58	299 5 5	11	45 5 0	75	533 13 4	41	184 5 8	263	1,038 10 7	187	502 1 8	80	199 6 11

pay withheld,
withheld,

Punishments inflicted on Revenue Inspectors

Nature of offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsinghpur.		Hoshangabad.		Nimar.	
		Number.	Amount of fines.	Number.	Amount of fines	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number	Amount of fines.	Number.	Amount of fines.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Non-residence	Dismissed	..	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...
	Degraded (*a*)	..	...	...	...	...	...	...	...		...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	..	...	...	...	1	20 0 0	...	...
	Suspended	...	...	...	...	.	...	...	...	...	...	...	...	..	...	...	...
	Transferred	...	...	.	...	...	...	...	...	...	...	...	...	..	...	...	...
	Total	...	...	...	...	..	...	...	...	...	...	.	...	1	20 0 0	...	...
Misconduct	Dismissed	..	...	1	...	...	...	...	...	...	...	.	...	...	...	...	...
	Degraded (*a*)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended	.	...	...	...		...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
	Total	...	...	1	...	...	...	...	...	..	...	...	...	...	...	...	...
Neglect of work (including inefficiency).	Dismissed	1	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...
	Degraded (*a*)	1	...	...	...	1	...	2	...	...	...	..	...	...	...	...	...
	Fined	4	85 0 0	1	5 0 0	2	30 0 0	19	152 0 0	...	...	1	20 0 0	2	22 8 0	...	...
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	Total	6	85 0 0	1	5 0 0	5	30 0 0	21	152 0 0	...	...	1	20 0 0	3	22 8 0	...	...
Dishonesty	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
	Degraded (*a*)	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
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	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	..	...	..	...	...	...	...	...	...	...	...	...	...	...
Pecuniary embarrassment.	Dismissed	...	...	...	...	...	...		...	...	...	...	...	...	...	...	...
	Degraded (*a*)	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total.	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Physical inability to stand out-door work.	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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	Total	...	...	...	...	..	...	...	..	...	...	...	...	...	...	...	...
Grand Total	Dismissed	1	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...
	Degraded (*a*)	1	...	...	...	1	...	2	...	...	...	..	...	...	...	...	...
	Fined	4	85 0 0	1	5 0 0	2	30 0 0	19	152 0 0	..	...	1	20 0 0	3	42 8 0	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
	Transferred	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
	Total	6	85 0 0	2	5 0 0	5	30 0 0	21	152 0 0	...	...	1	20 0 0	4	42 8 0	...	...

(*a*) Includes loss of

during the year ending 30th September 1898.

Betul.		Chhind-wara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs. a. p		Rs. a. p		Rs. a. p		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
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1	5 0 0	...	...	2	35 0 0	2	10 0 0	4	81 0 0	10	19 0 0	4	50 5 0	8	78 0 0	11	87 0 0	3	9 0 0
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1	5 0 0	2	...	2	35 0 0	3	10 0 0	4	81 0 0	10	19 0 0	4	50 5 0	9	78 0 0	11	87 0 0	4	9 0 0
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REPORT

ON THE

OPERATIONS OF THE DEPARTMENT OF LAND RECORDS & AGRICULTURE

CENTRAL PROVINCES

FOR THE YEAR ENDING THE 30TH SEPTEMBER 1899.

BY

R. H. CRADDOCK, ESQ., I. C. S.,

Director of Land Records and Agriculture, C. P.

Nagpur:

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1900.

No. $\frac{1884}{3}$.

FROM

C. W. E. MONTGOMERIE, ESQ., I. C. S.,

DIRECTOR OF LAND RECORDS AND AGRICULTURE,

Central Provinces,

TO

THE CHIEF SECRETARY TO THE CHIEF COMMISSIONER,

REVENUE DEPARTMENT,

Central Provinces.

Nagpur, the 13th June 1900.

SIR,

I have the honour to submit the Annual Report drawn up by my predecessor on the working of the Department of Land Records and Agriculture during the year ending the 30th September 1899.

I have the honour to be,

Sir,

Your most obedient Servant,

C. W. E. MONTGOMERIE,

Director of Land Records and Agriculture.

REPORT

ON THE

OPERATIONS OF THE DEPARTMENT OF LAND RECORDS & AGRICULTURE,

CENTRAL PROVINCES.

FOR THE YEAR ENDING 30TH *SEPTEMBER* 1899.

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REPORT

ON THE

OPERATIONS OF THE DEPARTMENT OF LAND RECORDS AND AGRICULTURE,

CENTRAL PROVINCES

FOR THE YEAR ENDING THE 30TH SEPTEMBER 1899.

I HAVE the honour to report on the working of the Department of Land Records and Agriculture during the year ending the 30th September 1899. As it was found that the existing arrangements under which the Secretariat placed at my disposal the District and Divisional Land Revenue Administration Reports (with Appendices) in order to enable me to write the Report on the operations of the Department, tended to delay its submission, Commissioners of Divisions and Deputy Commissioners were requested to send me direct copies of those sections of their Revenue reports relating to the branches of revenue administration with which I have to deal.

With the single exception of Raipur, which district did not send in copies of the section of its report until the 26th of February, all districts sent in the required extracts in good time.

SECTION I.

PREFATORY.

2. The office of Director of the Department of Land Records and Agriculture was held by Mr. C. W. E. Montgomerie during the first month of the year; by Mr. Carey from the 31st October 1898 up to the 28th March 1899; on which date the charge of the Department was made over to me. The post of Assistant to the Director was held by Mr. Parmanand Tiwari throughout the year.

Tours of Director.

3. During the cold weather of 1898-99, Mr. Carey inspected field work in four districts, namely Nagpur, Chanda, Raipur and Bilaspur. I inspected the Nimar and Betul Settlement Offices in April and June, respectively. In the rains I inspected office work in Raipur, Bilaspur and Chanda, and in August I proceeded to Hoshangabad in company with Mr F. G. Sly, late Settlement Officer, Hoshangabad, in order to discuss with the District authorities the question of the expediency of abating the Land Revenue demand of that district in view of recent deterioration.

4. My Assistant, Mr. Parmanand Tiwari, in the course of his cold weather tour inspected field work in the following districts :—Nagpur, Bhandara, Balaghat, Mandla, Seoni, Narsinghpur, Jubbulpore, Damoh, Saugor and Hoshangabad. His notes were forwarded with remarks to the Deputy Commissioners concerned, and have proved very useful.

SECTION II.

LAND RECORD ESTABLISHMENT.

Revision of Establishment.

5. During the year four Revenue Inspectors have been given a trial as Naib-Tahsildars in permanent or officiating capacities.

6. The work of revising the patwari halkabandis of re-settled districts was undertaken in Betul, Bhandara, Balaghat and Nimar. Revision proposals have been sanctioned in the Betul tahsil and in the Bhandara and Tirora tahsils. The proposals for the Balaghat tahsil have just been received back from the Commissioner of the Division. Those relating to Multai and the Nimar districts are awaiting criticism at the hands of the Commissioner, Nerbudda Division.

Revision of Land Record Establishment.

The changes made in the Bhandara district are very considerable, the former halkabandi having been framed without sufficient regard to local features, but the net addition to the patwari staff is not large. The Betul proposals, which were drawn up with great minuteness by the Deputy Commissioner, Mr. Standen, will very much improve the efficiency of the land record arrangements of the district. The staff of patwaris has been increased, and the pay of the most remote and unpopular circles has been raised. Although not formally sanctioned by the Administration, the new halkabandi in the Balaghat tahsil was brought into force when the organization of the Land Record Staff for the purpose of village relief took place. This entailed the creation of two Revenue Inspector's circles and 20 additional patwari circles. No steps, however, have been taken to alter the remuneration of the patwaris. The older members of the staff continue to draw either the whole or a portion of their remuneration from the Treasury, while the extra 20 patwaris are paid at the rate of Rs. 10 per mensem.

7. Preliminary proposals for the general revision, on completion of Settlement operations, of the patwari halkabandi of the Chanda district, and for the rates at which malguzari and ryoti patwari cess should be levied, were submitted to the Secretariat last May. This preliminary scheme, which has been sanctioned by the Administration, provides for the addition of one Revenue Inspector and 20 patwaris in the khalsa portion of the district, and it is expected that there will be three Revenue Inspectors and 50 patwaris in the zamindaris. In this latter area it has been found necessary to provisionally increase the patwaris' circles from 19 to 44, and to entertain the Revenue Inspectors at once, the existing staff having been quite inadequate. The rates at which patwari cess will ultimately be levied in this district are $5\frac{1}{2}$ per cent. on the revenue in malguzari, and 6 per cent. in zamindari estates, the ryots in both cases paying local dues at half-an-anna per rupee of rental.

8. Shortly before the year closed the Settlement Officer, Raipur, submitted preliminary proposals for the revision of the Land Record Staff and for the fixation of the rate of patwari cess in the khalsa and zamindari areas. The famine has, however, temporarily postponed the discussion of these proposals, which involve some very radical and necessary changes in present arrangements.

9. The recent additions which have been made to the Land Record Staff in the zamindaris of Chanda and Chhattisgarh, additions which represented the bare minimum compatible with efficiency of land record administration in these large areas, have entailed considerable extra expenditure without any corresponding increase of income to the Provincial Patwari Fund. Had times been prosperous this expenditure could easily have been met. As events have turned out, short collection of cesses, and extra expenditure on patwaris' salaries to compensate them for loss of dues, are rapidly exhausting the fund. It has received a small windfall in the shape of a refund of Rs. 18,000 wrongly charged to it in the famine of 1897, but it will require a spell of normal conditions to restore its equilibrium, and some Provincial aid will probably be necessary in the meantime.

Working of the Land Record Staff.

10. Measures for enforcing the residence of patwaris with their families in their circles continued to be taken in every district, but in spite of these by the close of the year 735 out of a total staff of 4,847 were non-resident without permission, the number at the beginning of the year having been 610. For this apparent backsliding, the additions to the staff in the zamindaris of Chanda and Chhattisgarh are largely responsible. The new halkabandis in these areas are provisional and have not yet got into regular working

Residence of Patwaris within their circles.

order. Similarly, the revised halkabandis have not been introduced in districts recently re-settled—such as Bhandara, Betul, Nimar and Balaghat; while in Saugor the new halkabandi has still to be framed, and is awaiting the completion of abatement proceedings. Settlement operations also temporarily disorganized the patwari staff of Raipur and Bilaspur. In those districts in which the new Settlement and halkabandis were introduced some time back, the residence-rule is enforced on the whole satisfactorily. Thus, in Jubbulpore, the number non-resident without leave has been reduced from 40 to 19, or 5 per cent.; in Narsinghpur only 7 out of 269, in Hoshangabad only 3 out of 276, and in Wardha only 3 out of 217 are non-resident without permission. A certain allowance has to be made for temporary men who cannot be expected to build houses in their circles until they are confirmed. The districts in which the exercise of early pressure is necessary, once the famine is over, are Betul, Nimar and Bhandara. The Deputy Commissioner, Betul, complains that there are still a number of Brahman patwaris in the district, who will not take up permanent residence in their circles notwithstanding that pay is withheld from time to time pending their compliance with the rule. Mr. Standen mentions a suggestion thrown out by the Superintendent of Land Records, that, on the principle followed by the Forest Department, patwaris should be encouraged to acquire a little cultivation in their circles. Mr. Standen thinks that it will be worthwhile to give the suggestion a trial in a few circles. Acquisition of land by a patwari, though not absolutely prohibited in the case of small areas, has always been regarded with disfavour. If he sublets it, it will afford no inducement to residence, while if he cultivates it himself, he is likely to neglect his duties. There is also a risk, which the Deputy Commissioner does not regard as very serious, of his exacting *begar*. There is no great objection to Mr. Standen trying the experiment in a few cases, though in the end, I expect, we shall have to fall back on the general rule that men who will not live in their circles must be replaced by those who will.

Training of Patwaris.

11. Classes for the instructions of patwaris and candidates were opened in all districts except Raipur, Jubbulpore and Balaghat, but the instruction given was interrupted when famine threatened and village relief lists had to be prepared. This is a matter on which constant exertions are necessary. When, as in the present year, additional Circle Officers are required to assist Revenue Inspectors, these can only be drawn from the ranks of the patwaris, and the latter have to be re-placed by trained candidates. Great inconvenience has been felt within Raipur and Bilaspur from the failure in the past to keep a sufficient number of men available. It is impossible to enforce discipline among a large body of men like the Chhattisgarh patwaris, unless the Deputy Commissioner, or Settlement Officer, has at his hand a number of men who can take the place of insubordinate or incompetent patwaris. Inquiries into the antecedents of some of the recently appointed men in Bilaspur has shown that a considerable number of them are men who were dismissed from Government service in other districts.

The Deputy Commissioner of Raipur complains that though there was a good supply of candidates trained in the previous year, their training was of little use as they would not accept circles in the zamindaris. This is of course a separate matter, and when the Settlement is revised the improvement of the remuneration attached to out-of-the-way circles will be one of the points to be considered

Condition of Village maps and Boundary-marks.

Map correction.

12. Annual map correction is one of the duties most stringently enjoined upon the patwari, and it is also one of the duties which he is most apt to shirk. Though there are many shortcomings in this respect, there has been improvement except in districts in which, owing to revenue abatement proceedings, patwaris have had to submit a number of extra returns. Map correction preliminary to re-settlement is proceeding in Raipur and Bilaspur. Patwaris were as usual summoned to head-quarters during the rains for the purpose of renewing their trace maps which were defaced

by corrections, but owing to the failure of crops the patwaris had in most cases to return to their circle. The number of traces replaced in the year, are shown below:—

	No.		No.
Saugor	400	Hoshangabad	342
Jubbulpore	152	Chhindwara	152
Seoni	15	Nagpur	185
Narsinghpur	85	Chanda	128
Sambalpur ...	... 333		

In paragraph 11 of last year's report, reference was made to a scheme for permanently demarcating the boundaries of compact holdings in Sambalpur, and the excessive cost that the work would entail. An attempt was made by the Deputy Commissioner, Sambalpur, in the direction of inducing ryots to demarcate their holdings, which work it is stated has been partly done in four villages, but the Deputy Commissioner is unable to say with what result or whether the ryots generally are willing to undertake the demarcation of their holdings or not. The possibility of the system will be further considered when a Settlement Officer is posted to Sambalpur; but in the absence of any legal power compelling ryots in Sambalpur to do this work, it is unlikely that progress in this direction will be at all rapid.

Village Boundary-marks.

13. Village boundary-marks continued to be satisfactorily maintained in all districts. In Nimar, however, there were nine cases of repairs to village boundary-marks. In eight of them the malguzars after being warned made the necessary repairs. The remaining case referred to the removal of a boundary-mark by a tenant, who was prosecuted.

Permanent marks for Traverse stations.

14. The condition of permanent marks for traverse stations is with a few exceptions reported to be fairly good. In Betul four malguzars were fined for not keeping them in proper order. It is reported from the same district that in the jungly villages many traverse marks have entirely vanished, and will have to be re-made. The Deputy Commissioner proposes to employ famine labour on this work. In Chhindwara there were nine cases in which malguzars had neglected to have the repairs made in due time, and these were subsequently done through the Tahsildar at the malguzar's cost. The old plan by which the tenants annually repair the mud *chandas* at Divali is being pursued in most districts. In Nagpur and Bhandara the substitution of *pucca chandas* of brick and lime for mud ones is being given effect to. The Wardha system of marking the sites of these traverse stations by stones 3 feet high was stated in paragraph 12 of last year's report as about to be adopted in Nagpur. This has not after all been done, nor is it desirable. The erection of a high stone close along-side of the embedded arrow-marked stone fixed by the traverse surveyor would probably prevent a plane table being placed exactly over the latter.

On the whole the old mud *chandas*, if regularly repaired at the Divali, serve the purpose required well enough, though if the people are willing to erect more permanent works of brick and lime, they may be encouraged to do so.

Boundaries of Survey numbers in ryotwari villages.

15. The boundary-marks of survey numbers in ryotwari villages in the Chanda district are being maintained by patels and kotwals, and the Deputy Commissioner reports that no complaints have yet been heard. Inspection on the spot is, however, necessary; many marks might disappear without any one troubling to complain.

These marks had been greatly neglected in Mandla (*vide* paragraph 14 of last year's report), but owing to the energetic action of the Commissioner of the Division, who discovered the neglect, this defect has been remedied. In case of most of the occupied numbers the necessary marks were replaced, or repaired, by the ryots. In unoccupied numbers this work was carried out at a cost of Rs. 157, which was charged to the Settlement Budget, as I did not consider it a fair charge on the Patwari Fund. It is to be hoped that the Deputy Commissioner of Mandla will keep the Land Record Staff up to their duties in the matter of these marks.

DEGREE OF PUNCTUALITY OBSERVED IN FILING VILLAGE PAPERS.

16. Statement J of the agricultural series shows the number of the various compilations of the *khasra*, *milan-khasra*, *jinswars* and *jamabandis*, respectively, filed by the due date, or delayed beyond it. The punctuality with which village papers are filed has improved of recent years, and there have been no serious delays in districts in which the staff was not hampered by Settlement operations. In the districts of Hoshangabad, Nimar, Chhindwara, Wardha, Nagpur, Balaghat and Sambalpur, all the papers were punctually submitted, a few jamabandis were a month late in Nimar and Balaghat. In the districts of Saugor, Damoh and Jubbulpore a good many jamabandis were a month late. The delay in filing these papers was partly due to the extra work involved by rental abatement or debt conciliation proceedings. In Narsinghpur, however, there was no such good excuse for 535 jamabandis being late. Revenue remission proceedings were heavier in Hoshangabad which filed its papers punctually. The Mandla patwaris are still backward in the matter of punctuality.

TESTING OF VILLAGE PAPERS.

17. The extent to which village papers were tested in the eleven districts in which there were no Settlement operations in progress is shown below :—

District.	Percentage of Khasra entries checked by Inspectors.	AMOUNT OF TESTING EFFECTED BY					
		Superintendent and Assistant Superintendent of Land Records.		Tahsildars.		Deputy Commissioners and Assistant Commissioners.	
		Number of		*Number of*		*Number of*	
		Villages.	Entries.	Villages.	Entries,	Villages.	Entries.
Saugor ...	16	541	16,999	135	1,567	29	404
Damoh ...	9	187	6,312	43	1 058	30	377
Jubbulpore ...	11	360	9,288	100	2,207	96	1,616
Mandla ...	11	118	3,523	350	4,049	32	576
Seoni ...	12	238	3,022	91	655	25	350
Narsinghpur ...	11	529	5,670	174	1,186	44	369
Hoshangabad ...	14	695	10.648	164	1,999	108	1,080
Chhindwara ...	14	376	3,972	99	3.654	...	...
Wardha ...	27	585	9,351	261	1,881	34	248
Nagpur ...	17	545	8,721	356	4,464	12	189
Sambalpur ...	8	567	12,939	44	4,892	3	27

18. The work done by Revenue Inspectors has been generally satisfactory; the percentage of entries tested having in most cases risen. The Deputy Commissioner, Narsinghpur, found that one Revenue Inspector did not take the khasra

entries in rotation as he should have done, contenting himself with checking the same entries year after year. This is probably a not uncommon fault and requires special check by the supervising officer. The number of villages in which records were tested by Superintendents and Assistant Superintendents of Land Records in the districts of the Jubbulpore Division, and in the Narsinghpur and Wardha districts is smaller than last year. The short outturn in districts of the Jubbulpore Division (Mandla excepted) is due to the time of the Superintendents and Assistant Superintendents of Land Records having to some extent been taken up over abatement work in Saugor, Damoh and Jubbulpore and in land revenue remission work in Seoni. To illness of the incumbents of the post of Assistant Superintendent of Land Records and to the post being vacant for a month-and-half is ascribed the short outturn in Wardha. The Superintendent of Land Records, Mandla, only visited 118 villages, but he returns a very large number of entries checked. His check requires to be much more extended than this.

Inspection of Village records by Tahsildars.

19. The number of villages in which records were inspected by Tahsildars have increased from 1,955 to 2,678. As was the case last year, nearly half the number is accounted for by the Tahsildars of the Nagpur Division. The small number of entries tested in Damoh is stated to be due to the Tahsildars being very fully occupied with debt conciliation proceedings. The reason for the short outturn in Chhindwara and Sambalpur is not explained by the Deputy Commissioner. Duties in connection with plague account for the deficiency in the work performed by the Tahsildars of the Wardha and Hinganghat tahsils. The Tahsildar of Arvi (Mukund Rao) checked more than $\frac{3}{4}$ths of the entries shown against this district.

It is very necessary that the Land Record Staff should be subjected to this outside test, but Tahsildars are prone to neglect this duty unless constantly reminded of it, not only at the end of the year when the report is being written, but from time to time during the season. The diaries which they submit to the Deputy Commissioner should enable him to see at once whether they are doing their work properly or not, and to give them timely reminders.

Deputy Commissioners and Assistant Commissioners.

20. The districts of Narsinghpur and Hoshangabad show a satisfactory increase in the number of entries tested by Deputy Commissioners and their Assistants. The whole of the 369 entries in 44 villages shown against Narsinghpur were checked by the Deputy Commissioner himself. Of the 1,080 entries checked in Hoshangabad, 280 were checked by the Deputy Commissioner, 300 by Mr. Leftwich, and 500 by Mr. Bagley, Extra-Assistant Commissioner. The Deputy Commissioner, Chhindwara, states that he checked entries in some villages in the Sausar tahsil, but either omitted to record the inspection or mislaid the record. The Deputy Commissioner of Nagpur could do no checking during the year as he was tied to headquarters in the cold weather by duties in connection with the plague. With but few exceptions, the part played by Assistants in checking village papers appears to have been quite insignificant.

Checking of Jamabandis by kanungos.

21. The amount of jamabandi testing done by kanungos has diminished by 15 per cent. (it had risen by 50 per cent. in the previous year), and the number of errors brought to light has again fallen.

Conduct and discipline of Land Record Staff.

22. There is no doubt that the Land Record Staff are a very useful body of men, and that the majority of them work hard and conscientiously. The extra work entailed on them during recent bad years by suspension and abatement enquiries, not to mention famine, has been cheerfully rendered. More than one officer testifies to the general accuracy of the records, which are found of the greatest service by our civil courts. But constant supervision is necessary, or a falling-off is at once noticeable. Some Revenue Inspectors who are reported to be doing well in ordinary times, fail lamentably when Settlement operations throw a stronger light on their qualities, and the only conclusion is that their incapacity escaped notice for a long time. This has especially been the case in Chhattisgarh where the supervising staff is not strong enough for its duties, and will certainly have to be increased when the new Settlement comes into force. As is noticed by the Commissioner, Jubbulpore,

some Deputy Commissioners do not acquire sufficient personal knowledge of the Revenue Inspector Staff, and are thus obliged to rely too implicitly upon the reports of the Superintendents. Most of the Superintendents of Land Records and their Assistants have done well in the year, but great slackness of supervision came to light in Jubbulpore, and both the Superintendent and his assistant have been transferred since the close of the year.

23. Compared with the punishment-roll of the preceding year, the number of Revenue Inspectors punished shows an appreciable decrease. The punishments are contrasted below :—

	1897-98.	1898-99.
	No.	No.
Dismissed	7	5
Reduced (including loss of field allowance)	6	1
Suspended	4	1
Transferred	3	3
Fined	78	41
Total ...	98	57

It is noticeable that no punishments were inflicted in Seoni, Hoshangabad, Chhindwara and Balaghat. The aggregate fines inflicted amounted to Rs. 252 compared with Rs. 738 in the preceding year. In five cases punishments were inflicted for misconduct, the other cases in which punishments were inflicted were for neglect of work.

24. The punishment-roll of patwaris also shows a falling-off when compared with the roll of 1897-98, as is shown in the statement below ;—

	1897-98.	1898-99.
	No.	No.
Dismissed	169	147
Reduced	54	8
Suspended	118	60
Transferred	26	33
Fined	1,018	807
Total ...	1,385	1,055

Of the 147 dismissals, 28 were for non-residence, 40 for misconduct, 52 for neglect of work, 15 for dishonesty and 12 for physical inability to perform the duties of the post. Raipur, with the largest staff, continues to head the list of punishments ; Nagpur comes second with 92 punishments including 9 dismissals. The districts in which the smallest punishments were inflicted are Betul, Nimar and Chhindwara. Rewards aggregating Rs. 902 were granted to patwaris for good work in the districts of Saugor, Damoh, Narsinghpur and Hoshangabad. As patwaris who do badly have to be freely punished by fines, it is right that those who do conspicuously well should be given rewards. Sufficient liberality in this matter has not been shown in the past in many districts.

Sanads for Improvements.

25. The issue of *sanads* for improvements made by landlords and tenants, is generally dealt with under this section.

The return for the year is as follows :—

	No.		No.
Saugor	10	Chhindwara	1
Damoh (*a*)	*Nil.*	Wardha	33
Jubbulpore	24	Nagpur	8
Mandla	10	Chanda	27
Seoni	6	Bhandara	11
Narsinghpur	9	Balaghat	20
Hoshangabad	2	Raipur	21
Nimar	*Nil.*	Bilaspur	19
Betul	*Nil.*	Sambalpur	15
		Total ...	216

(*a*) Four applications were received.

There is a marked falling-off in the number of sanads granted during the year under report. The reason given by the Deputy Commissioner, Saugor, for the small number granted in his district is that land is fast falling out of cultivation and improvements of fields are not being made except in a few exceptional cases. No sanads were granted in the Damoh, Nimar and Betul districts. The Deputy Commissioner, Damoh, admits that the Revenue Inspectors and patwaris have neglected their duties in the matter of reporting cases of improvement. Mr. Blakesley adds that the duties of the Land Record Staff in this matter escaped his notice until his attention was drawn to them on perusing paragraph 28 of my annual report on the working of the Land Record Department for 1897-98. One of the reasons given by the Deputy Commissioner, Nimar, for the non-issue of sanads is that the Revenue Inspectors and patwaris were not altogether relieved of their Settlement duties and therefore have not had time to report any cases of improvement. The other reason is that as the Settlement being only in course of announcement land-holders may have not yet thought of making improvements. This is just the very time, however, when improvements should be made as they will reach the maximum period of exemption in the whole of the term of the Settlement just announced and of the Settlement next ensuing. This fact should be impressed on the people. The Deputy Commissioner adds that 122 licenses for blasting purposes were issued to cultivators during the year. Substantial works take some time to complete as the funds of the cultivators admit, and these works should all qualify for sanads before long. The Deputy Commissioner, Betul, believes that some improvements have not been brought to notice, but considers that multifarious duties of the Land Record Staff during the year furnished some excuse of this neglect. The Tahsildar of Ramtek is stated to have paid no attention to the subject, and he has been called upon for an explanation by the Deputy Commissioner, Nagpur. The Deputy Commissioner, Bhandara, refers to a scheme drawn up by him during the year in consultation with the Settlement Officer by which the patwaris in the district are required to furnish their Inspectors by the 1st of April in each year with lists of improvements made in their circles since attestation, and the Inspectors while testing the khasras are required to check their accuracy and send a consolidated return to the Deputy Commissioner's Office in order to enable it to get the improvement inspected by some superior officer, with a view to grant it a sanad. This may be a proper expedient for catching up arrears, but it differs from that laid down in Rule 41 (*a*) of the rules defining the duties of Revenue Inspectors, published in Part II of Revenue Book Circular No. III—1, by which Revenue Inspectors are required to submit *at once* a report to the Deputy Commissioner, giving full details of the improvement after he has attested all entries in regard to it noted by the patwari in the remarks column of the village khasra. I have nothing to add to my remarks on this subject in paragraph 28 of last year's report. It cannot be too strongly insisted that no formal application is necessary.

26. In regard to the reference made by the Deputy Commissioner, Chanda, in respect of the grant of sanads for improvements made prior to attestation and only recorded at the Settlement (see paragraph 29 of last year's report), I have on his representation to the effect that the people attach a sentimental value to a sanad as something they can keep and show to inspecting officers and others, directed the Settlement Officer, Chanda, to furnish the particulars required by the Deputy Commissioner.

SECTION III.

UTILIZATION OF LAND RECORDS.

CIRCLE NOTE-BOOKS.

27. Circle note-books are now practically complete in all districts in which their introduction was ordered. In Narsinghpur and Nagpur rent collections have to be entered up. The books have now been completed for the khalsa portion of the Sambalpur district. The Deputy Commissioner, Narsinghpur, states that he made constant use of them last touring season and found them very useful. Good progress in respect to their preparation has been made in the districts under Settlement for areas which have been re-assessed. When once circle note-books become regularly established, there is no doubt that they will be of the utmost utility to district officers, which utility will be much increased when the record of rent collections (for the improvement of which proposals are before the Chief Commissioner) has been put on a more accurate basis. In regard to the question raised from Nimar, whether these books should be written up for ryotwari villages, the Chief Commissioner has decided in the negative.

VILLAGE NOTE-BOOKS.

28. More attention appears to have been paid to village note-books during the year, and the books generally are now more complete than they were, but delays continue to be reported in several districts in regard to the delivery of the books by the Police to the Tahsil. In Hoshangabad 107 note-books remained to be completed at the close of the year, but have since been written up. Twenty-seven note-books in the Harda tahsil are reported to have been lost or destroyed. In the Khandwa tahsil 59 books had not been received from the Police at the time the Deputy Commissioner wrote his Revenue Administration Report. During the course of their tours the Deputy Commissioner, Betul, the Tahsildar and the Superintendent of Land Records checked note-books, and in several instances found the books very badly written and incomplete in several ways. Of the 124 note-books remaining to be completed in the Nagpur district, 51 were not received from the Police. The Deputy Commissioner, Bhandara, issued orders to Extra-Assistant Commissioners and Tahsildars to make a point while on tour to examine the books of villages through which they happened to march, and after testing a sufficient number of entries, to note the inaccuracies and omissions in their diaries. The result of these directions was that during the year 25 books were inspected by the Deputy Commissioner, 85 by Extra-Assistant Commissioners, and 142 by the Tahsildars of Bhandara and Tirora, and the defects pointed out to the tahsil kanungo for rectification. In the Tirora tahsil 360 books are still incomplete. In the Balaghat tahsil all the books are reported to have been written up and sent out to the mukaddam except those for 20 villages. In Raipur 564 note-books of villages in the Drug tahsil remained to be completed. This was due to the patwaris' papers having been filed in September instead of in July owing to Settlement work. The writing up of village note-books for the year has not been completed in either tahsil of the Sambalpur district. The Deputy Commissioner states that he has taken the officials responsible to task.

Proposals are now before the Chief Commissioner to simplify the procedure by which these note-books are at present entered up. If it can be arranged that the village note-book does not leave the village, an accurate maintenance is provided for, and there should be no more complaints of missing and badly written books.

FAMINE NOTE-BOOKS.

29. The Deputy Commissioner, Jubbulpore, states that there are 8 famine note-books which contain figures for the year of Settlement only. Since then no entry has been made and no use is made of them. Good progress has been made in writing up famine note-books in districts under Settlement. The books of the remaining portion of the Khandwa tahsil, and the whole of the Burhanpur tahsil,

have been completed and made over to the District office. The books for all the villages in the Bhandara, Tirora and Sakoli tahsils are complete in every respect except as regards entries in respect of the number of houses, number of inhabitants and of names of mukaddams of a few villages, and the Settlement Officer's remarks in the case of the villages of the Sakoli tahsil.

The expediency of maintaining these famine note-books in their present shape has become very doubtful. I have not heard of their being useful in the last or present famine. With the village and circle note-books a separate famine note-book is hardly necessary. What is wanted is a list of projects to serve as village works in the event of a famine occurring. These lists can no doubt be compiled from the famine note-books to some extent, but further local enquiry will be advisable.

SECTION IV.

SCIENTIFIC AND NATIONAL ENQUIRY UNDER IMPERIAL CONTROL.

30. The Provincial Land Record Department in the Central Provinces is called upon from time to time to co-operate with the following Imperial Departments:—

(1) The Survey Department.
(2) The Meteorological Department.
(3) The Department under the Reporter on Economic Products.
(4) The Civil Veterinary Department.
(5) The Department of Agricultural Chemistry.
(6) The Statistical Department.

Co-operation with Survey Department.

31. The original survey work of the year carried out under my direction was not of much importance. The survey of a few better established villages in the zamindari estates of the Chanda and Raipur districts was undertaken and completed during the year. Four villages in the Chanda district, covering an area of 5,487 acres, and 22 villages in Raipur, covering an area of 20,004 acres, were so surveyed. The amendment of maps and records in the Dhamtari and Bilaspur tahsils was undertaken during the year under report as part of the Settlement operations.

Topographical Maps.

32. The revision of topographical maps was referred to in paragraph 36 of last year's report. From correspondence which has passed between the Deputy Surveyor-General and myself, it has become quite manifest that the system hitherto followed, of sending to Calcutta the traces of villages in which correction of topographical features was required, has not been a success. A small drawing office under the immediate supervision of an officer of the Survey of India, located at Nagpur, where communication with my office would be easy, would afford the best solution of the difficulty; and during the year I laid general proposals both for this and for the conduct of future traverse operations before the Chief Commissioner (letter No. 3531-55, dated the 7th September 1899).

33. The small survey party now working in these Provinces under an Extra-Assistant Superintendent of Survey, surveyed an area of 477 square miles, including a number of excised areas in Betul and Chhindwara, and part of the Chhindwara jagirs, during the field season of 1898-99.

Fall of Aerolites.

34. In accordance with the orders contained in Revenue Book Circular No. X—6, a fragment of meteorite, which fell at Donga-Kohrod, a village in the Bilaspur district, on the afternoon of the 23rd September 1899, together with a copy of a report regarding it, dated the 27th idem, by Mr. Lancaster, Assistant Settlement Officer, Bilaspur, was forwarded to the Director, Geological Survey of India, Calcutta.

Co-operation with the Meteorological Department.

35. The rainfall statistics of the Province are compiled in this office and regularly transmitted to the Meteorological Reporter to the Government of India. The efficiency of rainfall registration was separately reported upon in this office letter No. 2394-107, dated the 27th June 1899. Proposals have been sanctioned for some new raingauge stations in the rice districts, and officers of the Public Works Department have been added to the list of those required to inspect raingauges. This duty will be in their case confined to stations situated on roads under their control.

Path of hail-storms.

36. Reports on hail-storms which occur in any part of the Province are obtained as they occur and sent, with skeleton maps to illustrate the course of each storm and its approximate breadth, through the Local Administration to the Meteorological Reporter to the Government of India. During the year only the following storms had to be reported:—

Name of district.	Number of storms.	Date of occurrence.
Saugor ...	One ...	10th February 1899.
Hoshangabad ...	One ...	
Seoni ...	Two ...	6th and 7th February 1899.
Hoshangabad ...	One ...	2nd April 1899.

Action taken on requisitions of the Reporter on Economic Products.

37. The list of products collected and supplied to the Reporter is this year a small one, consisting of the Tarota weed (*Cassia auriculata*) obtained from Nimar and Betul, and the plant and bark of the Tinsa (*Ongeinia dalbergiodes*).

A report, accompanied by botanical specimens of various products of the Babul tree (*Acacia arabica*), was submitted to the Reporter after the close of the year under report.

38. With this office letter No. 2778, dated the 24th July 1899, I submitted to the Secretariat a memorandum showing the results of enquiries made by Settlement Officers and certain Deputy Commissioners, as to the existence of the sugarcane disease described as "*Trichospheria sacchari*" in Agricultural Ledger No. 13 of 1898. The enquiries made so far, while indicating a strong suspicion of the presence of the disease, do not conclusively prove its existence, and the specimens of diseased cane collected in the districts and sent to the Reporter, were not in a sufficient state of preservation to allow of the disease being accurately identified. I furnished copies of this memorandum to the officers who made the enquiries, and asked them to verify the facts reported by them, during their cold weather tours of 1899, and to send me any additional information which they may possibly collect, but the famine has, I fear, interfered with this as with much other useful but not immediately urgent work.

Gondal fluid as a white-ant extermination.

39. Since the close of the year I communicated to the Reporter the successful results which attended the experiments conducted by the Superintendents of the Horticultural Gardens and Experimental Farm, Nagpur, with the Gondal fluid. I propose after the famine is over to issue a circular letter to Deputy Commissioners asking them to have it tried on road-side trees, etc.

Investigations into the forms of *Dioscorea* (Yams).

40. Last August the Reporter asked my co-operation in the investigation into all the numerous forms, both wild and cultivated of *Dioscorea* (Yams). But at my suggestion he has agreed to the enquiry being postponed for a year so far as these Provinces are concerned.

41. The returns relating to the production of minerals were compiled in this office, and submitted to the Reporter, through the Provincial Secretariat, accompanied by reports on the iron industry of these Provinces by Deputy Commissioners and Forest Officers.

Co-operation with the Department of Agricultural Chemistry.

42. Since the close of the year the Agricultural Chemist to the Government of India, enquired if this Department could conveniently arrange to supply him, for the purpose of chemical analysis, with small quantities of various kinds of food-grains, oilseeds and fodder. My only collecting agency for this purpose at present is the District Officer and his Assistants, and it was necessary to postpone this matter also. It will receive attention when times are again normal.

Veterinary work.

43. The office of Superintendent, Civil Veterinary Department, remained vacant during the whole year. Reports on outbreaks of cattle disease sent from Tahsildars are received by my Assistant. It is occasionally possible to depute a Veterinary Assistant to the spot, but this is only advisable when the outbreak is of a very serious character, as it is difficult to spare his services from his own dispensary and district.

In the absence of a Civil, Veterinary Superintendent for the Provinces, a Senior Veterinary Assistant, whose duty it will be to visit and inspect the various Veterinary dispensaries, is urgently needed. One extra Veterinary Assistant to send out from head-quarters to investigate an outbreak of cattle disease in any district where there is no local qualified man would also prove of much help. This has been urged more than once, but until the financial outlook is brighter there is little prospect, I fear, of the additional staff being forthcoming.

Horse-breeding.

44. There are at present four horse stallions in the Provinces: three (Yakub Khan, Shamsher and Fussy) at Saugor, and one (Sultan) at Narsinghpur, also a donkey-stallion (Burj) at Saugor.

The usual statement showing the number of mares served by the horse-and donkey-stallion is given below :—

District.		Numbers of mares served during quarter ending				
		December 1898.	March 1899.	June 1899.	September 1899.	Total.
Saugor ...	Yakub Khan ...	10	3	13	6	32
	Shamsher ...	7	6	15	7	35
	Fussy ...	...	...	4	5	9
	Burj (Donkey) ...	9	1	6	4	20
Narsinghpur ...	Sultan ...	6	5	8	2	21

Good use appears to have been made of Yakub Khan and Shamsher. Fussy has not done much work. The District Superintendent of Police, Saugor, had the stallion out with him in camp for some seven weeks, but is not favourably impressed with his capabilities. The further development of horse-breeding in the north of the Province, where alone it seems to promise success, must await the restoration of normal times, and the appointment of a Civil Veterinary Superintendent.

Veterinary Dispensaries.

45. There were seven Veterinary Dispensaries in these Provinces at the close of the year, three new dispensaries having been established at Mandla, Jubbulpore and Hoshangabad in January, August and July 1899, respectively. The extent to which the four dispensaries, which were in existence throughout the year, and Mandla which

was opened for nine months af the year, have been used by the public, is shown by the following figures which are contrasted with those of the previous year :—

District.	Number of cases treated.				Average daily attendance.	
	Horned cattle.	Horses.	Other animals.	Total.	1897-98 (October 1897 to September 1898).	1898-99 (October 1898 to September 1899).
	No.	No.	No.	No.		
Nagpur	1,604	1,177	998	3,779	21·57	16·36
Raipur	590	537	444	1,571	16·41	13·30
Wardha	369	170	133	672	15·06	11·06
Bilaspur	474	363	158	995	...	...
Mandla	1,476	151	25	1,652	...	17·64

Nagpur Dispensary.

46. The daily attendance at the Nagpur Dispensary shows a falling-off. Eight major operations, two of which were castrations, and 145 minor operations, were performed during the year. Besides his other duties, the Veterinary Inspector lectures twice a week at the Nagpur Agricultural Class, and also instructs the Normal Class masters regarding the treatment and measures to be adopted in the more serious forms of cattle disease. Mr. Pillay also inspects every quarter the ponies used in hackney carriages. The Veterinary Assistant visited 195 villages during the year. The present site of the dispensary is not a very satisfactory one, and the question of building a new dispensary on a better site is one which the District Council will have to consider. Municipal help should also be forthcoming.

Raipur Dispensary.

47. The daily attendance at the Raipur Dispensary also shows a slight falling-off. The Veterinary Inspector, Raipur, attributes the fall :—

(1) To the want of a duly qualified assistant.

(2) To the levy of fees.

The Secretary, District Council, is inclined to agree that the work really suffered for the want of a duly qualified Veterinary Assistant, which want has since been supplied. But he is not prepared to accept the second reason put forward by the Veterinary Inspector for the fall in the attendance. He points out that the scale of fees, which was decided by a committee composed of European and Native gentlemen, is an extremely moderate one. Final orders on the levy of fees in Veterinary Dispensaries have not yet been passed by the Chief Commissioner.

The number of operations performed by the Veterinary Inspector, Raipur, during the year was 134, of which 18 were major and 116 minor operations. The Raipur Veterinary Dispensary now consists of two rooms. The need of a stone or brick floor and of a compound, is complained of, as also the want of stables and a shed for stabling suspected cases. A shoeing forge was opened during the year under report as an experimental measure.

Bilaspur Dispensary.

48. The Veterinary Assistant at Bilaspur treated 995 patients and visited 47 villages.

Wardha Dispensary.

49. The Veterinary Dispensary at Wardha was practically closed during the last four months on account of the plague; 672 cases were treated at the dispensary during the year, and the Veterinary Assistant visited 23 villages. The Veterinary Assistant suggests that outbreaks of cattle disease should be reported by the Police and patwaris direct to the District Council, as under the present system the reports having to pass through several hands, are often delayed until the disease has subsided. Here also complaints are made regarding the building in which the dispensary is located. The Chairman of the District Council admits this, but urges want of funds.

The Veterinary Assistant, Wardha, is also entrusted with the duties of inspecting cattle brought to be slaughtered, but is not paid anything by the Municipality for this work.

50. Since the close of the year, *i. e.*, on the 10th February 1900, one more Veterinary Dispensary has been opened at Saugor. One of the questions to be considered in this district is the expediency of arranging for the inspection of the cattle markets and slaughter-houses in the district. At the urgent request of the Deputy Commissioner, last May I deputed Mr. Pillay to make local enquiries in respect of an outbreak of anthrax in the Khurai tahsil of the Saugor district. By the time Mr. Pillay arrived the outbreak had subsided. Mr. Pillay visited the cattle market held at this tahsil town, and learned that the hides of cattle which died from contagious diseases were being brought by the Chamars for sale. He also visited Rahatgarh, a large cattle market where cattle are bought and slaughtered both for their hides and for the meat, which is exported in large quantities to Burma. Cattle were slaughtered in an open place quite close to the village; no responsible person was present to examine the cattle before they were slaughtered, and there is great risk that diseased cattle may be sold to the butchers who have settled in the village.

The Mandla, Hoshangabad and Jubbulpore Dispensaries are still in their infancy.

51. One of the two candidates deputed in 1897 to the Ajmere Veterinary School for instruction, failed to secure the prescribed number of marks in one subject, but was allowed by the Local Administration to continue his course for another year. The other successful candidate is now in charge of the Veterinary Dispensary at Hoshangabad. During the year the sanction of the Local Administration was obtained to the deputation of three new students to the school. The three new students belonged to the northern districts and were selected in consultation with the Inspector-General of Education, Central Provinces. Two of them, however, left the school within a fortnight of their arrival. One of these was unwilling to dissect dead cattle; the other left because his mother was ill. Another young man sent to replace him left because he found the other students too far advanced; and yet another, who had long been anxious to join the class, pleaded illness.

The pay and prospects are at present not sufficiently attractive, and few of the students from this part of the world appear to have the requisite grit to embark on a novel course of study so far from their homes.

Enumeration of live-stock and registration of cattle disease.

52. The following statistics of live-stock are as yet far from accurate, but in those districts (marked with an asterisk in the statement below), where the patwaris have been employed solely on land record work, they are probably more reliable than elsewhere. Contrasted with the figures of the previous year, the

number of plough-cattle show a falling off in five districts, namely, Damoh, Seoni, Hoshangabad, Chhindwara and Sambalpur :—

District.	Number of Plough-cattle.	
	1897-98.	1898-99.
Saugor*	91,923	92,879
Damoh*	78,590	77,044
Jubbulpore*	171,374	171,946
Mandla*	66,036	69,392
Seoni*	81,435	81,304
Narsinghpur*	53,078	57,392
Hoshangabad*	151,808	149,654
Nimar*	51,358	84,063
Betul	87,188	88,233
Chhindwara*	122,668	108,014
Wardha*	93,115	98,250
Nagpur*	154,316	157,596
Chanda	184,878	189,772
Bhandara	184,011	184,257
Balaghat	82,874	85,673
Raipur	440,728	483,938
Bilaspur	340,566	360,757
Sambalpur *	301,258	291,277

53. Registration of cattle disease by patwaris has only been attempted in Nagpur and Wardha. The number of deaths reported in Wardha is 24,324 against 21,560 in the preceding year. In Nagpur the cattle mortality is reported to have been 11,452 against 11,950 in the preceding year. In consequence of the holding off of rains, scarcity of fodder was felt almost everywhere during the three closing months of the year, and several deaths are attributed in Wardha to cattle eating young juari. With the opening of forests to free grazing in the district the mortality disappeared. In addition to the usual endemic maladies, anthrax broke out in parts of Saugor, Betul, Hoshangabad, Wardha, Nagpur and Chanda, and the mortality from all kinds of disease in Saugor is believed to have been unusually heavy. A large number of deaths from rinderpest are reported from the Raipur and Sambalpur districts. The number of cattle which died from this disease in Wardha and Nagpur are reported as 1,349 and 606, respectively. In Betul there was a severe outbreak of foot and mouth disease in the north, and of anthrax (black quarter) in the west. The last disease was introduced by cattle from Berar, the mortality among which was very great. The malady spread to Betul cattle also, but not to any great extent.

In the remaining districts cattle disease broke out at various times, but the outbreaks were not of a virulent or widespread kind. From Balaghat it is reported that cattle poisoning for the sake of hides was on the increase. There were 14 cases reported, in 5 of which convictions were secured. The Deputy Commissioner considers that restrictions on the sale of arsenic would have a good effect in diminishing this kind of offence.

54. The dissemination of veterinary knowledge among the people is still progressing very slowly. There are now 8 dispensaries open in the Province, and Veterinary Assistants make short tours in the interior of the districts ; but the owners who bring cattle for treatment are as yet few, chiefly residents of towns or villages in the close vicinity of the towns. Several thousand copies of leaflets by Veterinary Lieutenant Trydell on the prevention of the spread of contagious and infectious diseases of cattle, and by Veterinary Captain Gunn on the treatment of the four more deadly forms of cattle diseases have been distributed among the people, but these will only appeal to the most educated among the agricultural classes. Yet the results are not altogether discouraging. From Chanda, Bhandara, Balaghat and Chhindwara come reports that the advantages of segregation are gradually being recognized, while in the first-named district it is stated that some persons have tried the treatment indicated in the pamphlet with good results. Elsewhere, and most notably in Chhattisgarh, the people cling to their traditional methods with hidebound steadfastness.

Co-operation with the Statistical Department.

55. The annual agricultural statistics have been prepared as in previous years in this office and submitted to the Director-General of Statistics.

The total area for which statistics are available in zamindaris has increased by 29,641 acres. The quarterly and annual returns of rail-borne traffic were received as usual and submitted to the Statistical Bureau. The only change made in the character of the returns are :—

(1) The exhibition of the trade in Al (*Morinda citrifolia*).

(2) The amendment of the sub-heads under sugar.

56. The general introduction of a special *girdawari* for ascertaining the exact areas under cotton and til in time for the final forecasts of those crops was sanctioned, but again postponed owing to the heavy work which the famine entailed upon the patwari staff.

Crop-cutting experiments.

57. The number of crop-cutting experiments conducted during the year under report was 1,422 as compared with 1,658 in the previous year.

The extent to which the various classes of officers contributed is as follows :—

Deputy Commissioners	...	...	30
Assistant Commissioners	...	...	50
Extra-Assistant Commissioners	...	...	394
	Total	...	474
Settlement Officers	...	...	206
Assistant Settlement Officers	...	...	779
Superintendent of Land Records	...	...	5
	Total	...	990
	GRAND TOTAL	...	1,464

Of these crop cuttings 986 were made with kharif, and 478 with rabi crops. Other experiments were also carried out by officers of inferior status, but these were as usual not compiled. The result of these experiments and of the conclusions to be drawn from them are reviewed quinquennially in this office.

SECTION V.

SCIENTIFIC AND LOCAL ENQUIRY UNDER PROVINCIAL DIRECTION.

58. The Experimental Farm at Nagpur under Mr. R. S. Joshi is the only one maintained in these Provinces. The fields and forest land attached to the Telenkheri estate, of which the control was transferred from the Forest Department to this Department in June 1899, have been placed in charge of Mr. Joshi. This officer also looks after the Telenkheri reserve and is Principal of the Agricultural Class as well as Curator of the Nagpur Museum.

59. The rainfall up to the middle of September was considerably in excess of the normal, but after that date there was no rain worth mentioning, and the cold weather months were quite dry, a shower in February being too late to be of any practical use. Kharif crops gave good outturns, but the cold weather til was much damaged by downpours of rain in the first week of September, and the cold weather crops suffered severely from drought, and returned very poor yields. Some of the most important experiments are conducted with wheat and linseed, and the dry conditions of the last four successive years have greatly vitiated the results obtained.

60. The experiments carried on in the farm are annually reviewed, and it is unnecessary to report here the information given in detail in the Farm report, but the main objects to which the present series of experiments are directed, are :—

(1) The improvement of wheat cultivation by manure, tillage and rotation.

(2) The introduction of superior varieties of cotton and other valuable crops.

(3) The utilization of sewage to the best advantage for rain crops.

(4) Preventive and remedial measures for plant diseases and for losses caused by defects of position.

(5) The supply of good seed to cultivators.

61. It is, however, useless to test methods of tillage, manures, or implements on the farm unless the experiments can be extended to wider fields, and be tried by private agriculturists in different parts of the Province. In order to secure this we have at present no suitable agency available. I had hoped to have framed some proposals for obtaining a better agency, when the famine came to postpone all progress. When the whole resources of the Government are being employed to battle against deterioration, it is hopeless to expect the expenditure of money or time on experimental progress.

The ordinary Land Record Staff have done most excellent service in the matter of obtaining reliable crop statistics, maintaining records, and administering famine relief, but they are not trained sufficiently to be a suitable agency for the conduct of experiments. It is no good to ask men to push upon the attention of a cultivator the merits of some agricultural device, which they do not themselves understand, and which in all probability they show all wrong. This report is, however, not the place for either promises or prophecies, and while I have hopes of partially overcoming these difficulties, I must confine myself now to recording what little is being done.

Smut in juar.

62. A great deal of loss occurs every year to juar by smut. It has been proved that by treatment of juar seed with sulphate of copper before sowing, smut is effectually prevented. A leaflet to this effect was widely circulated through the agency of the Land Record Staff, but not, I am afraid, with much result. In the village of Somalwara, 8 miles from Nagpur, the juar was heavily smutted. The Farm Superintendent supplied it with enough good seed for 160 acres. The cultivator who carried this away

produced bags which had been last filled with heavily smutted seed and was much surprised to learn that there was any risk of the good seed being infected. This illustrates how much needless loss may be caused to cultivators through neglect of the most simple precautions.

Cultivation of Egyptian cotton in Betul.

63. An experiment, which gave definite results in Betul during the year, was the cultivation of Egyptian "Abbasai" cotton as an irrigated rabi crop. A small crop was raised by one Motilal, Patel of Badora. The crop was valued by the Manager, Empress Mills, Nagpur, at Rs. 96 per *bhoja*, as against Rs. 65 ordinary *bani*. The seed was sown at the end of September in light-black soil, and watered about once a week till the end of the cold weather, after which it was irrigated once every three or four days. The amount of watering was excessive, and had the effect of shrivelling the bolls so that although the plants were strong and flowered freely, the outturn was small. Farm experience has shown that one, or at the most two, waterings a month are ample for this cotton even in the hottest months. The Deputy Commissioner considers that this cotton can be grown in Betul as a rabi crop with irrigation, and that it would be exceedingly interesting to see the effect of less watering. The Deputy Commissioner is of opinion that if a fair outturn can be obtained, the crop should be of the greatest use to cultivators in whose sugarcane *baris* the "aghai" weed has appeared. The Deputy Commissioner adds that Motilal Patel has taken advantage of the famine in Berar and has imported from that Province three or four families of Kunbi cultivators who are well acquainted with cotton cultivation. His intention is to cultivate cotton as a kharif crop. Mr. Standen is afraid that the Patel will not succeed as the climate is too cold in Betul in October and November. This experiment will be prosecuted further.

Experiments with the date-palm.

64. Last April the Deputy Commissioner, Nimar, sent me certain correspondence between himself and Mr. Haridas Chatterji, Pleader at Khandwa, on the subject of certain experiments connected with the manufacture of jaggery from the juice of the date-palm (*Phoenix sylvestris*) and recommended application being made to the North-Western Provinces Director for 25 workmen to help him in the experiments which he proposed to make last cold weather. I complied with the Deputy Commissioner's recommendation by asking the North-Western Provinces Director to give Mr. Haridas Chhatterji any assistance in his power in the matter of importing suitable men for the work required. The North-Western Provinces Director informed me that at the request of Mr. Haridas Chhatterji, who had already addressed him in the matter, enquiries were being made as to the locality where *pasis* can be hired and the wages they would ask. This endeavour ultimately failed, but Mr. Haridas has since been able to obtain men from Gujarat who are skilled in tapping the palms, and he is training local men. He has now formed a company and intends pushing the industry and refining his own sugar. The results of his first season's work are encouraging, but I will await one season more before publishing results. If the manufacture of date-sugar is successful in Nimar, it will probably spread elsewhere as there are thousands of these trees which might prove a lucrative source of revenue to their owners.

Introduction of juar into black soil tract in Chhattisgarh.

65. The Mungeli tahsil of Bilaspur consists almost entirely of black soil, a great deal of which is placed under the poor and unremunerative crop of kodon. There is practically no grazing land available, and the cattle which are fed almost entirely on rice straw are very poor. There is a great deal of slightly sloping land on which juar promises to grow well, and the rainfall of the tahsil averages only about 45 inches and is therefore not too heavy for successful juar cultivation. The introduction of this crop would afford a valuable rotation with wheat, as well as fine fodder for the cattle. The Settlement Officer of Bilaspur, Mr. Low, takes an enthusiastic interest in agriculture, and his presence there was an opportunity not to be lost. Accordingly last June the Superintendent of the Experimental Farm under my instructions, despatched 160 lbs. of juar seed to the Settlement Officer, Bilaspur, for experimental cultivation, and also sent a Farm

servant to instruct the cultivators of the district in the use of the seed-drill. The seed was readily taken and tried; owing to the unfortunate drought the outturn of grain was not very large, but the fodder (karbi) was excellent. One of the most significant lessons to be learnt was the effect of sending among cultivators a husbandman like themselves. I do not know which was more amusing, the respect inspired by the farm ploughman among the Chhattisgarhi cultivators, or the contempt with which the Chhattisgarh cultivators inspired him ; but I have no doubt that they were much more impressed by his straight furrows and his seed-drill, than they would have been by a hundred lectures by Revenue Inspectors. The result has been that this year the applications for juar seed have been much more numerous, and arrangements are being made to send a number of ploughmen, and a larger quantity of seed.

Protection of crops from damage by trees.

66. Experiments to test the treatment found successful at the Nagpur Experimental Farm of digging trenches between trees and crops in their vicinity in order to save the latter from the loss of moisture otherwise absorbed by the surface roots of trees, were made in Seoni, Narsinghpur, Hoshangabad, Nagpur and Bhandara. The experiment in Seoni was conducted in a field bearing wheat, and it is reported that the plants attained a greater height than they did in the preceding year. The number of experiments conducted in Narsinghpur amounted to twenty, and are reported to have been successful. In Hoshangabad 58 experiments were made, the results of which will be reported next year. Of the 138 experiments made in this district last year, 98 are reported to have proved successful. Seeds sown up to the trenches germinated and no diminution in the produce of the crops within that area was observed. It is stated that in former years when no trenches were dug there used to be no germination under trees within a radius of a chain or more. Notwithstanding such good results, the Deputy Commissioner fears that the lessons taught may not have been grasped by the people to any appreciable extent. The average Hoshangabad husbandman, the Deputy Commissioner states, considers that it is part of the established order of things that a considerable fraction of his holding should remain unproductive in consequence of trees and scrub jungle standing on it

Seven experiments were made by the Manager, Court of Wards, Nagpur, on fields bearing rabi crops. The experiment was not successful as owing to the failure of the rains the surface moisture evaporated with great rapidity and germination was very defective whether in the vicinity of or away from the trees. The Manager of the Bhonsla estate, who is reported to have conducted some experiments in his own garden lands, expresses himself sceptically on the subject, he thinks that it is the shade and not the roots of the trees that have an injurious effect on the crops especially vegetables. I am sorry that he did not express his doubts to me personally, as I think, I could have removed them. No one contends that shade may not cause some loss, but it is not responsible for a tithe of the loss put down to it. The area believed to be injured by the shade is far greater in a dry year than in a moist year, and the injury extends far to the south side of the tree. I have given much attention to this subject, and have seen hundreds of instances to prove that the shade is not responsible. Want of success may not seldom be due to want of skill, and it would be ludicrous, if it were not annoying, to find the Tahsildar of Sakoli for the second year in succession triumphantly reporting that as he dug the trench after the crops had been cut, the experiment had no effect.

Fuel and Fodder Reserves.

67. The fuel and fodder reserves in Raipur are in charge of the District Council, to which body the reserves have been leased at a nominal rental for a term of five years, from 1st April 1895. The expenditure during the year on them was Rs. 317-4-3, and the income was Rs. 930. No efforts were made in the direction of planting forest trees in the reserve. The income from the sale of grass in the reserves in the Bilaspur district was Rs. 940-6-3 in the previous year. As promised in paragraph 73 of the last year's report, I asked the Settlement Officer, Bilaspur, to report on the question of the reserves in that district. Mr. Low had no opportunity of

seeing any of the reserves this year, but forwarded a Note drawn up by Mr. Lancaster, Assistant Settlement Officer, on the subject, in which it is shown that the Jangir reserves do pay their way. The Settlement Officer has promised not to lose sight of the matter. Mr. Low adds, however, that his experience does not lead him to share Mr. Cooke's views that these reserves are a failure.

The Deputy Commissioner, Sambalpur, writes as follows about the reserves in the Sambalpur district.

* * * * * *

There have been few complaints of any interference with nistar rights in either class of jungles; and it has not been found necessary to put any jungles under special protection. In zamindaris the people claim to have nistar rights over all the jungles near their villages and have complained of their rights being restricted by the zamindars reserving portions of their jungles. It would of course be absurd to allow villagers nistar over a jungle of some thousands of acres, and I have therefore called on zamindars to select jungles for reservation and submit the list for approval, with a view to stopping all nistar rights in such jungles. This was done long ago in the Phuljhar and Borasambhar estates, and reserved jungles have been demarcated. I trust that the same may be done in the jungles of Kolabira, Rampur and Loisinga, where there are large extents of good forest. In reserving these forests, care will be taken to leave each village a sufficient extent of village jungle in which nistar rights can be exercised.

* * * * * *

This matter will be carefully considered at the approching re-settlement of the district.

The income of the Telenkheri reserve during the year was Rs. 240, and the expenditure Rs. 139. It will now be amalgamated with the forest portion of the Telenkheri lands handed over by the Forest Department.

SECTION VI.

AGRICULTURAL EDUCATION.

Agricultural Class.

68. The growing popularity of the Agricultural Class, Nagpur, continues, and the steps taken to place it on a better footing by reserving certain appointments for its successful students are producing excellent results. These results are chiefly manifested in better qualified candidates coming forward, in increased numbers, for admission. In the senior class there were four students. Of these three passed the final examination, and the best of them (Nand Kishore) was granted a scholarship of Rs. 20 and sent to the Science College, Poona. The junior class contained 11 students, of whom 10 passed, and were promoted. Two of the senior class possessed the general educational qualification of the Entrance Standard, and one the Middle School Standard; while, of the juniors, two had passed the F. A. examination, and nine the Entrance Standard. Among the batch lately selected for admission, there are three F. A. students and ten Matriculates. Among the students of the present senior class, there will be only two representatives of the Hindi districts, but among recent admissions there are nine. There was no agriculturist among the students that have recently passed out of the class. In the present senior class there are three, and seven in the junior class, two being the sons of malguzars. The total cost of the class was Rs. 2,493.

Normal Agricultural Class, Nagpur.

69. The system of putting schoolmasters through a course of agriculture continues. In June 1898, 58 teachers, contributed by all the districts in the Provinces, some sending four, some three and some two, were admitted. These men received theoretical instruction in the class-rooms and were required to perform actual practical work with their own hands in the fields, till the end of October, when 52 passed and obtained certificates. The second session began in November with 33 schoolmasters, selected from the different districts, and 37 students sent for training direct from the three Normal schools, after obtaining Teacher's

Certificates. One student died during the session, and three others failed to complete the course: 66 appeared for the Final examination, and 57 passed. Thus, in the past year, 109 teachers qualified in agriculture and were sent out to the various districts as schoolmasters. These men teach agriculture to the higher classes of their schools, and the reports of Inspectors show that this is often very well done. The total cost of the Normal Agricultural Class is Rs. 2,176.

The successful management and instruction of the Agricultural Class and the Normal Agricultural Class, reflect the highest credit on the Principal, Mr. Joshi, and his Assistants.

SECTION VII.

PUBLICATION OF AGRICULTURAL INFORMATION.

70. Much of the work done has been enumerated in Section IV.

Apart from the usual forecasts, trade returns, agricultural statistics, &c., described in that section, a Note on the crop statistics of 1898-99 was prepared and published by this Department during the year under report. Since the close of the year the Superintendent, Experimental Farm, Nagpur, prepared a bulletin on the manurial value of night-soil as applied under Captain Meagher's system, which is about to be published.

In accordance with the instructions contained in Revenue and Agriculture Department Circular No. 13-72—16, dated the 3rd May 1899, a list of agricultural implements and machines, which were tested during the year ended 30th September 1899, and of those in use which were reported to have met with more or less marked success during the year, is appended to this report. I recently obtained a Meston plough from the Director of Agriculture, North-Western Provinces. It is, however, too light for use in our heavy black soils.

71. The following papers were received during the year from other Provincial Departments :—

(1) Monograph on the woollen fabric industry of the Madras Presidency.

(2) Berar bulletin No. 2 on cotton cultivation in Berar.

SECTION VIII.

FINAL.

Fairs.

72. The usual statistics relating to the more important fairs were collected and published in the *Central Provinces Gazette.*

Extension of Communications.

73. An addition of 68¼ miles was made to the Railway system of the Provinces during the year, by the extension of the Indian Midland Railway branch line from Damoh to Katni. Road construction has added 181 miles of new roadway and 34 miles have been raised in class.

Extension of Irrigation.

74. The orders of the Chief Commissioner on the proceedings of the committee which assembled some time ago to consider the question of the repair and maintenance of tanks existing in ryotwari villages in the Chanda district were received during the year. The Chief Commissioner has directed that the whole question should be considered and reported on in connection with the Chanda assessments (Secretariat letter No. 3883, dated the 5th September 1899).

Museums, Art and Sciences.

75. The number of museums in the Central Provinces remains the same, *viz.*, two, the provincial Museum at Nagpur, and the local one at Raipur. The institution at Nagpur is in charge of the Agricultural Department. The opening balance on the 1st April 1898 was

Rs. 3,807-11-0. The grant from provincial revenues was Rs. 768, making the total receipts Rs. 4,575-11-0. The expenditure under the head contingencies amounted to Rs. 209-0-4. Salaries amounted to Rs. 1,044-2-4, but the expenditure is debited against the allotment of Rs. 1,092 provided in the budget estimate of the "Scientific and other Minor Departments." Thus the year closed with a balance of Rs. 4,366-10-8. During the year 13 specimens of cloth manufactured in Chanda were added by purchase to the collection, and 54 coins were given to the museum. The Raipur Museum is in charge of the District Council. The year opened with a balance of Rs. 590-11-2, to which were added the receipts of the year amounting to Rs. 615, thus making the total receipts of the year Rs. 1,205-11-2. The total expenditure was Rs. 557-6-2, the chief items being that of establishment, Rs. 321. In 1897-98 the expenditure under this head was Rs. 361-8-0, the difference being due to the fact that that year's figure includes compensation allowance paid to the employés. Only Rs. 16-13-0 were spent on exhibits, the new specimens consisting of Multan pottery purchased during the year. There was a decrease in the number of visitors against that of the pevious year, when the Chief Commissioner's darbar held in January 1898 attracted many persons to the town from the interior of the district.

Review of Registration Report.

76. The report on the working of the Registration Department was forwarded to this office for perusal, and was returned with such remarks as appeared to be called for.

77. It is a source of much regret to me that I have had no opportunity of touring in the interior of districts since I took over charge of the Department, on the 28th March 1899. I visited the Settlement offices in the rains, but the advent of the famine put a stop to all general touring, and my appointment as Famine Secretary, in addition to my duties as Settlement Commissioner and Director, has left me but little leisure for agricultural matters. It is only left to hope for better times.

R. H. CRADDOCK,

Director of Land Records and Agriculture,

Central Provinces.

Statement showing the punishments inflicted on Patwaris.

Punishments inflicted on Patwaris during

Nature of offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsingh-pur.		Hoshanga-bad.		Nimar.	
		Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Non-Residence.	Dismissed	4	...	1	...	3	...	...	...	...	...	..	...	2	...	...	...
	Degraded	...	...	..	...	...	...	...	...	..	...	.	...	...	...	...	...
	Fined	14	55 3 10	4	25 8 0	2	20 0 0	15	91 14 3	8	38 11 4	...	...	3	20 0 0	2	12 14 5
	Suspended	4	...	...	...	1	...	5	...	2	...	..	...	2	...	..	...
	Transferred	...	...	...	...	...	...	...	...	2	...	..	...	..	...	..	...
	Total	22	55 3 10	5	25 8 0	6	20 0 0	20	91 14 3	12	38 11 4	...	...	7	20 0 0	2	12 14 5
Misconduct	Dismissed	4	...	2	...	3	...	1	...	...	...	...	...	1	...	4	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	6	31 0 0	5	34 12 0	2	10 0 0	3	5 0 0	...	...	3	14 0 0	4	19 0 0	11	41 0 0
	Suspended	...	...	...	...	...	...	...	...	...	...	4	...	2	...	...	...
	Transferred	..	...	4	...	1	...	...	...	2	...	...	...	6	...	...	...
	Total	10	31 0 0	11	34 12 0	6	10 0 0	4	5 0 0	2	...	7	14 0 0	13	19 0 0	15	41 0 0
Neglect of work (including inefficiency.	Dismissed	1	...	7	...	10	...	4	...	...	...	1	...	3	...	...	...
	Degraded	..	...	...	...	...	...	1	...	...	...	...	...	..	...	...	...
	Fined	20	44 8 0	49	181 12 0	13	92 5 4	24	95 2 8	12	70 2 8	13	69 0 0	16	88 0 0	2	13 0 0
	Suspended	1	...	...	...	3	...	...	...	...	...	2	...	4	...	...	...
	Transferred	...	...	..	...	..	...	...	...	...	...	...	...	..	...	...	...
	Total	22	44 8 0	56	181 12 0	26	92 5 4	29	95 2 8	12	70 2 8	16	69 0 0	23	88 0 0	2	13 0 0
Dishonesty	Dismissed	6	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	6	27 0 0	...	...	1	5 0 0	...	...	...	...	...	...	1	10 0 0	1	15 7 10
	Suspended	2	...	...	...	1	...	1	...	...	...	...	...	..	...	1	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	14	27 0 0	...	...	2	5 0 0	2	..	...	...	1	...	2	10 0 0	2	15 7 10
Pecuniary embarrassment.	Dismissed	...	...	...	...	..	...	...	...	...	...	.	...	...	...	...	...
	Degraded	..	...	...	...	.	...	...	...	...	...	.	...	...	...	...	...
	Fined	...	...	...	...	...	...	..	...		...	...	...	..	...	..	...
	Suspended	..	...	..	...	..	...	.	...		...	...	...	..	...	..	...
	Transferred	...	...	...	...	...	...	..	...	..	...	.	...	...	...	...	...
	Total	...	...	.	...	...	...	.	...	..	...	...	...	..	...	...	...
Physical inability to stand out-door work.	Dismissed	..	...	.	...	...	...	2	...	..	...	...	...	1	...	...	...
	Degraded	...	...	...	...	.	...	...	...	...	...	...	...	..	...	...	...
	Fined	..	...	...	...	..	...	..	...	.	...	...	...	..	...	..	...
	Suspended	...	...	..	...	...	...	...	...	...	...	.	...		...	...	...
	Transferred	...	.	...	...	1	...	.	...	.	...	...	...	.	...	..	...
	Total	...	.	..	...	1	...	2	...	.	...	...	...	1	...	...	...
Grand Total.	Dismissed	15	...	10	...	16	...	8	...	...	...	2	...	8	...	4	...
	Degraded	..	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
	Fined	46	157 11 10	58	242 0 0	18	127 5 4	42	192 0 11	20	108 14 0	16	83 0 0	24	137 0 0	16	82 6 3
	Suspended	7	...	...	...	5	...	6	...	2	...	6	...	8	...	1	...
	Transferred	..	...	4	...	2	...	..	...	4	...	...	...	6	...	...	...
	Total	68	157 11 10	72	242 0 0	41	127 5 4	57	192 0 11	26	108 14 0	24	83 0 0	46	137 0 0	21	82 6 3

the year ending the 30th September 1899.

Betul.		Chhindwara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
2	...	6	...	...	...	2	...	...	...	...	...	.	...	...	...	...	...	8	...
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5	10 0 0	1	...	..	...	5	...	2	10 0 0	1	...	20	58 13 8	165	1,075 4 0	16	270 7 7	10	13 2 6
...	...	2	...	2	...	4	...	..	...	4	...	...	...	4	...	7	...	3	...
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5	22 11 0	5	35 7 0	35	146 5 5	77	377 10 7	49	292 2 11	31	144 10 6	7	67 5 4	91	569 0 0	44	232 2 3	8	24 0 0
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...	...	2	...	..	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
5	22 11 0	9	35 7 0	39	146 5 5	81	377 10 7	49	292 2 11	36	144 10 6	7	67 5 4	96	569 0 0	54	232 2 3	11	24 0 0
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3	38 4 8	.	...	.	...	.	...	..	...	...	...	12	71 6 8	9	59 9 9	...	...	...	...
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3	38 4 8	.	...	..	...	...	...	...	...	1	...	12	71 6 8	13	59 9 9	...	...	3	...
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12	104 0 2	5	35 7 0	35	146 5 5	78	390 14 7	50	302 2 11	31	144 10 6	34	198 10 2	245	1,703 13 9	55	502 9 10	22	56 2 6
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17	104 0 2	21	35 7 0	47	146 5 5	92	390 14 7	51	302 2 11	39	144 10 6	40	198 10 2	280	1,703 13 9	70	502 9 10	43	56 2 6

Punishments inflicted on Revenue Inspectors during

Nature of offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsinghpur.		Hoshangabad.		Nimar.	
		Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Non-Residence.	Dismissed	...	...	...	...	..	...	.	...	...	...	...	...	...	...	...	...
	Degraded (*a*)	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...	...
	Suspended	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...
	Total	...	...	...	...	...	...	..	...	...	...	...	...	..	...	...	...
Misconduct...	Dismissed	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
	Degraded (*a*)	..	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
	Fined	...	...	..	...	...	...	...	...	...	...	...	...	...	...	..	...
	Suspended	...	...	...	...	...	...	...	...	..	...	...	...	..	...	...	...
	Transferred	...	...	...	...	...	...	...	...	..	...	...	...	..	...	...	...
	Total	...	...	...	...	..	...	..	...	...	...	...	...	...	...	...	...
Neglect of work (including inefficiency)	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*)	1	...	1	...	...	...	1	...	..	...	1	...	...	...	...	...
	Fined	...	...	.	...	1	5 0 0	2	10 0 0	...	...	2	15 0 0	...	...	.	...
	Suspended	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	..	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
	Total	1	...	1	...	1	5 0 0	4	10 0 0	...	...	3	15 0 0	...	...	...	...
Dishonesty ...	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...
	Suspended	...	...	...	...	...	...	.	...	...	...	...	...	...	...	..	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Pecuniary embarrassment.	Dismissed	..	...	...	...	...	...	..	...	...	...	..	...	...	...	...	...
	Degraded (*a*)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	..	...	...	...	...	...	...	...	..	...	...	...	...	...
	Suspended	...	...	..	...	...	...	...	...	...	...	...	...	...	...	..	...
	Transferred	...	...	...	...	..	...	...	...	...	...	..	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Physical inability to stand out-door work.	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (*a*)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended	...	...	..	...	..	...	...	...	...	...	...	...	..	...	...	...
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	Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Grand Total.	Dismissed	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
	Degraded (*a*)	1	...	1	...	...	...	1	...	...	...	1	...	...	...	...	...
	Fined	...	...	...	...	1	5 0 0	2	10 0 0	...	...	2	15 0 0	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	1	...	...	...	...	...	...	...	..	...
	Total	1	...	1	...	1	5 0 0	4	10 0 0	...	...	3	15 0 0	...	...	...	...

(*a*) Includes loss

the year ending the 30th September 1899.

Betul.		Chhind-wara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

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REPORT

ON THE

OPERATIONS OF THE DEPARTMENT OF LAND RECORDS & AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR ENDING THE 30TH SEPTEMBER 1900

BY

L. S. CAREY, Esq., I. C. S.,

Director of Land Records and Agriculture, C. P.

Nagpur:

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1901.

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Agents for the sale of Books published by the Central Provinces Administration.

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REPORT

ON THE

DEPARTMENT OF LAND RECORDS AND AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR ENDING THE 30TH SEPTEMBER 1900.

I have the honour to report on the working of the Department of Land Records and Agriculture during the year ending the 30th September 1900.

The necessary extracts from their Revenue Administration Reports have been furnished punctually by all Deputy Commissioners except Chhindwara and Wardha, and I have obtained the remaining materials for this report from the Commissioner of the Nagpur Division and the Secretariat. The only Commissioner of Division who has sent me any extracts is the Commissioner of Nagpur, but his contribution arrived after Sections II, III and IV of this Report had been drafted.

SECTION I.

PREFATORY.

2. The office of Director of the Department of Land Records and Agriculture was held by Mr. R. H. Craddock, I. C. S., during the first two months of the year. In December 1899 he was appointed Famine Secretary to the Chief Commissioner in addition to his duties as Director. He was relieved of the charge of the Department by Mr. C. W. E. Montgomerie, I. C. S., on the 21st April 1900, and on the latter officer proceeding on furlough on the 13th August 1900, Mr. Craddock resumed charge of the office and held it in addition to his Secretariat duties until the close of the year.

Tours of Director.

3. Under the circumstances above detailed my *locum tenens* was unable to make a cold weather tour. During the rains Mr. Montgomerie inspected the Land Record Offices in the Nimar and Jubbulpore Districts and the Settlement Offices of Bilaspur and Sambalpur.

4. My Assistant, Mr. Param Anand Tiwari, was deputed by the Administration in January 1900 to take a census of some of the famine relief camps in the Drug Tahsil of the Raipur District with a view to ascertain the extent of the influx of persons from the Feudatory States. Early in February he was entrusted with the announcement of the revised revenue and rents in the Lakhni Group of the Bhandara Tahsil; and in September he inspected the Bhandara Settlement Office.

SECTION II.

LAND RECORD ESTABLISHMENT.

5. During the year five Revenue Inspectors have been on deputation as Náib-Tahsildars in permanent or officiating capacities. One Revenue Inspector has been appointed as Manager, Court of Wards, Jubbulpore. Since the close

of the year one Inspector has been appointed an Additional Tahsildar and two to act as Naib-Tahsildars. One has been deputed on Foreign Service and two have been appointed as Managers of Court of Wards, of whom one has since reverted.

It is observable that most of these appointments have been made in the Jubbulpore and Nerbudda Divisions, and hitherto very little has been done to satisfy the aspirations of the Land Record Staff in the Nagpur and Chhattisgarh Divisions. Some matriculated Revenue Inspectors who have passed through the Agricultural Class should, however, shortly have qualified for the appointments reserved for them by the orders of the Administration.

Revision of Land Record establishment.

6. The proposals of the Settlement Officer, Balaghat, for the revision of the patwari halkabandi in the two tahsils of his district have been sanctioned during the year. Revision proposals have also been sanctioned recently for the Sakoli Tahsil of the Bhandara District, while those relating to the Multai Tahsil of the Betul District were submitted to the Secretariat for sanction after the close of the period under report. The new scheme for the Nimar District was received from the Commissioner of the Division at the end of the year, but in view of the impending census the proposals cannot be introduced at once. The registers have accordingly been returned to the Deputy Commissioner, Nimar, for entry of *ad interim* remuneration.

The effect of the Balaghat Settlement Officer's proposals for the revision of the patwari halkabandi of that district has been the addition of 13 circles in the Balaghat Tahsil and seven circles in the Behir Tahsil. The staff of Inspectors for the district has been raised from five to six, of whom four are allotted to the more populous and better cultivated tahsil of Balaghat.

The sanctioned scheme for the revision of the patwari halkabandi of the Sakoli Tahsil entails the addition of eight patwari circles and the employment of one more Inspector. The chief feature in the revised arrangement is the amalgamation of khalsa and zamindari villages in one patwari circle, so as to secure geographical compactness and enable the Patwari staff to discharge their duties more efficiently, while subjecting them to more effective control by the Inspecting Staff. Formerly we had a separate staff of patwaris for khalsa and zamindaris; but this arrangement did not work well, as the villages held in the different rights were intermingled and much time was lost in travelling to and fro. Orders have however issued in accordance with which the statistics relating to khalsa villages and zamindari estates will be separately compiled as in the past.

The proposals for the Multai Tahsil provide for the creation of 11 new circles and the abolition of two old circles, the net increase being nine circles. The effect of the revision in the Betul District is as shown below:—

Name of tahsil.	Old circles.	New circles.
Betul	108 + * 10	116
Multai	66	75
Total ...	184	191

The patch-cultivation villages are now being settled in ryotwari fashion and have been included in patwari circles along with the malguzari villages to which they lie adjacent.

The revision of the patwari halkabandi in Saugor is still under consideration of the local authorities. Now that the abatement proceedings are drawing to a close, it is understood that this long deferred scheme will shortly be completed.

* Patch-cultivation villages.

7. Preliminary proposals for the revision of the patwari halkabandi in Bilaspur were received from the Settlement Officer, but it is not proposed to submit them to the Secretariat until a decision is arrived at touching the resumption of settlement operations in the district. The same remarks apply to the Raipur preliminary proposals.

8. Not a few of the additions that have been made in latter years to the Land Record Staff have entailed extra expenditure without any corresponding increase to the Provincial Patwari Fund. A few years ago there was a substantial balance in the fund amounting to several lakhs of rupees, which enabled Land Record administration to be extended to the wilder portions of the Provinces, *e. g.*, the Chhindwara jagirs and the zamindaris of Chanda and Chhattisgarh. But latterly, owing to short collection of cesses coupled with extra expenditure entailed by the necessity of recouping the patwaris to some extent for the loss of their local dues, the usual surplus has been converted into a deficit and it has been necessary to invoke the aid of the Provincial Government in the shape of a grant from Provincial Revenues.

Working of the Land Record Staff.

Residence of Patwaris within their circles.

9. In most districts continued efforts have been made to compel the residence of patwaris in their circles and considerable success has been attained which, I trust, will not prove a merely temporary feature.

Owing to the large staff of European and native Charge Officers employed during the year in connection with famine relief operations, Deputy Commissioners were in a better position than usual to control the patwaris of the outlying portions of their districts. On the other hand a year of famine, when the patwari's remuneration is much curtailed, is not a favourable time for insisting on house construction. The number of patwaris non-resident without permission at the close of the year under report was only 526, out of a total staff of 4,883, whereas at the beginning of the year 721 patwaris were returned as non-resident.

The results are particularly gratifying in view of the recent additions to the staff in the Zamindaris of Chanda and Chhattisgarh.

In Mandla the number of non-residents has been reduced from 95 to 15 since 1897, which shows what is possible under steady and sustained pressure. In Jubbulpore there are now only 7 patwaris non-resident as compared with 19 in the previous year. In Bhandara the number has been reduced from 73 to 26. The improvement in Betul is reported to be due to (1) the stoppage of pay from the treasury in the case of those patwaris who failed to comply with the rule, (2) the nature of their work this year affording them less opportunities of absenting themselves without detection, and (3) to their finding it cheaper to keep their families with them. But more than one-fifth of the staff of this district is still non-resident. The increase in the number of non-resident patwaris in Chanda is due to the addition to the staff in the zamindaris of that district.

The districts in which this matter at present requires most attention are Saugor, Seoni, Betul, Nimar and Sambalpur. Considerable improvement may be expected in Nimar as soon as the revised halkabandi arrangements are sanctioned.

Training of patwaris.

10. Classes for the instruction of patwaris and candidates were opened at the head-quarter tahsils in Saugor, Bhandara, Raipur and in both tahsil head-quarters of Sambalpur. In the remaining districts no classes were opened as Revenue Inspectors were employed on famine relief.

Twenty-eight candidates passed out in Saugor, 4 in Bhandara, and 29 in Raipur. The Deputy Commissioner, Bhandara, writes as follows in regard to

the great utility of these classes which the year under report has served to illustrate :—

"The classes provide at a moment's notice material with some pretensions to training to fill the place of patwaris promoted, suspended or sick. The only matter for regret was that the training was not better and the men more numerous. The importance of having men thus available is not a mere matter of effective work during the absence of the permanent patwari. It is much more than this, *viz.*, a guarantee for better work on the part of all permanent patwaris. It is a most salutary incentive to work to know that you can easily be replaced, and any incentive to work that can be manufactured for the patwari is a thing to be treasured."

In a famine year very little can be accomplished in the way of instruction, and deterioration naturally results. The number of trained candidates is now in most districts quite inadequate to meet the ordinary waste, and timely arrangements should be made everywhere this year to train a sufficient number of new candidates as also to instruct those members of the Patwari staff whose knowledge of survey is not up to the required standard. It may also be mentioned in corroboration of what is written above that map correction operations are being much hampered this season in the Chhattisgarh districts, owing to a serious lack of competent candidates to replace patwaris who are sick or inefficient.

Condition of Village Maps and Boundary Marks.

Map correction.

11. The work of replacing defaced trace maps could not be proceeded with during the year under report in most districts, as the whole attention of patwaris and Inspectors was devoted to famine relief administration. For the same reason map correction work preparatory to assessment was perforce suspended in the khalsa portions of the Raipur and Bilaspur Districts, while the office work connected with the operations of the previous year was also in abeyance. But the amendment of village maps was started in November 1899 in the least affected portions of the Sambalpur District under the supervision of an officer of the Imperial Survey Department, and revised maps were completed for 325 villages covering an area of 502 square miles. Mr. J. R. Scott has also revised the maps of Bindra-Nawagarh and Khuji in the Raipur zamindaris. The number of traces replaced in the year is shown below :—

Saugor	... 257	Hoshangabad	... 66
Jubbulpore	... 45	Betul ...	... 13
Mandla	... 15	Chanda ...	... 128
	Balaghat	... 100	

This important matter is commended to the notice of all Deputy Commissioners and their Superintendents of Land Records, and efforts should be made during the coming monsoon to replace traces that owing to defacement are no longer suitable as a basis of Land Record administration. Theoretically all patwaris should be required to replace their own traces, but owing to defective eyesight or heavy-handedness many prefer to pay contractors for this work, and this solution is willingly accepted by Superintendents of Land Records, as it saves trouble. I concur with the Deputy Commissioner, Saugor, that this is not satisfactory, and with the return of normal seasons greater efforts should be made to impart instruction in this department to patwaris and candidates.

In Seoni and Bhandara there has been considerable laxity in the annual map correction work. The interior sub-divisions of rice fields, which are frequently altered by ryots, have not been corrected by the patwaris. The map in this way ceases to be an accurate reflex of the ground.

Village boundary marks.

12. Village boundary marks continued to be satisfactorily maintained in most districts. But a few district officers found it impossible to work the law stringently as so many agriculturists were away from their homes in the open season. In Jubbulpore there were 154, in Nimar 14 and in Chhindwara 9 cases of repairs or re-erection of village boundary marks. In the Sohagpur tahsil of the Hoshangabad District,

the tri-junction stations of 50 villages under Court of Wards management have been repaired with brick and lime. The Deputy Commissioner, Betul, reports that the condition of boundary marks in jungly villages, where they were most defective, ought now to be much improved, because depôt famine labour was employed in repairing them.

Permanent marks for traverse stations.

13. It is clear from the district reports that this matter received very little attention during the year. In Nagpur scarcity of water prevented some necessary repairs.

Boundaries of survey numbers in ryotwari villages.

14. Many of the ryotwari boundary marks in Damoh were in a neglected condition, but an expenditure of Rs. 200 was sanctioned for repairing the marks on unoccupied numbers and a part of it has been spent on reconstructing 237 marks. There remain 1,166 marks on occupied plots and 1,627 on unoccupied plots, which are either missing or in want of repair. The Deputy Commissioner, Mandla, states that he paid particular attention to the subject when on tour, and that little remains to be done. In Seoni the marks are reported to be taken care of except in cases where the tenants left their villages and resorted to kitchen or relief works. The instructions issued by the Commissioner, Jubbulpore Division, in connection with the restoration of missing marks and the proper maintenance of field boundary marks in the ryotwari villages of the Mandla district were issued by the Deputy Commissioner, Nagpur, to the Revenue Inspectors in his district with slight modifications, and the result is reported to be satisfactory as all boundary marks are stated to be well marked on the ground.

Vide Secretariat letter No. 1986, dated the 17th May 1900.

15. Allusion can most conveniently be made in this place to the amendments to Revenue Book Circular III-1, which are designed to secure a more correct record of rental collections from year to year. The demand side of the *rasid bahis* was previously written up as soon after the 1st June as possible, and anything which remained unpaid on that date of the previous rabi instalment was deemed an arrear. Any contrast then between the revenue collections made during a revenue year and the rental collections of that year was therefore impracticable. To bring the rental accounts into correspondence with the revenue accounts it has been arranged that the *rasid bahis* should be maintained for the revenue year beginning and ending four months later than the agricultural year to which the current demand entries relate. The accounts in the *bahis* are under the new scheme made up as soon after the 1st October as possible. A new form, termed the *majmua rasidbahian,* has also been prescribed, which, as its name implies, is a compilation of the entries made in the *rasid bahis.* The preparation of this copy in connected form enables the patwaris to state how rent collections are progressing from time to time without reference to the *rasid bahis,* and greatly facilitates the calculation of rental collection totals for entry in the jamabandi. Thirdly, separate columns have now been prescribed in the *rasid bahis* for the separate entry of the rental arrears of the past three years. Further, two concessions have been made to the proprietary body, under one of which they are given an opportunity of signing the jamabandi in token of having seen it. Malguzars are also permitted under the revised rules to enter rent collections in a *rasid bahi* or to sign the entries in lieu of giving a separate receipt to the tenant.

Degree of Punctuality observed in filing Village Papers.

16. The extent to which punctuality was observed in filing village papers is exhibited in Statement J of the agricultural series. Considering the large amount of extra work imposed on the staff by the famine and the census, the results are on the whole decidedly satisfactory. The great bulk of the milan khasras and jinswars were submitted in due time. There was, however, more unpunctuality in connection with the submission of jamabandis; still the delays were in most cases excusable, and the only remarks that suggest themselves are that the Narsinghpur and Sambalpur Districts might have done better, while in Balaghat and Chanda the delays were greater than in other districts similarly situated.

Testing of Village Papers.

17. The extent to which village papers were tested in the 15 districts in which there were no settlement operations in progress is shown below:—

District.	Percentage of khasra entries checked by Inspectors.	Amount of testing effected by Superintendent and Assistant Superintendent of Land Records.		Tahsildars.		Deputy Commissioners and Assistant Commissioners.	
		Number of		*Number of*		*Number of*	
		Villages.	Entries.	Villages.	Entries.	Villages.	Entries.
Saugor ...	15	580	11,068	476	5,399	63	1,538
Damoh ...	11	189	8,033	60	956	2	21
Jubbulpore ...	10	503	10,572	144	2,902	40	250
Mandla ...	9	152	2 268	165	2,523	28	284
Seoni ...	10	156	3 042	132	893	22	218
Narsinghpur ...	11	664	9,921	95	1,166	89	1,222
Hoshangabad ...	14	525	7,212	273	2 514	...	...
Nimar ...	15	301	3,991	101	976	25	262
Betul ...	12	531	13,770	102	2,225	...	...
Chhindwara ...	10	220	2,812	122	1,406	6	172
Wardha ...	33	726	15,418	75	1,109	97	812
Nagpur ...	19	510	7,623	170	1,589	...	...
Chanda ...	15	615	13,382	144	727	...	...
Balaghat ...	9	155	8,108	262	1,551	...	...
Raipur ...	4	1,772	19,389	14	884	...	...

18. In considering the testing effected by Inspectors it has to be borne in mind that their number was very largely increased owing to the famine. Some circles were sub-divided into two portions, others into three, having regard to their size and the severity of the famine. Looking to the conditions of the year the results may, I think, be accepted as generally satisfactory. In Raipur, some men were appointed as Circle Officers who were ignorant of Land Record procedure, This explains to some extent the low percentage of testing accomplished in this district, but the Deputy Commissioner states that the Revenue Inspectors made the very most of the famine as an excuse for neglecting the check of the patwaris' papers. In Chhindwara only 10 per cent. of khasra numbers have been checked as compared with 14 per cent. in the previous year. This amount of check is inadequate in a district like Chhindwara and the reason is not far to seek.

The Superintendent of Land Records, so writes the Deputy Commissioner, was kept tied to head-quarters after 6th March, being engaged on famine work. All the testing he did was in Sausar Tahsil and he did not visit the Chhindwara sub-division during the year. The Inspectors were thus left unsupervised in respect to Land Record work from the first week of March, for the Tahsildars did little testing. I regret to say that this is not the first time that I have had to animadvert on the mode of employing the Superintendent of Land Records in districts where Mr. Chapman has been Deputy Commissioner. He converted Mr. Chotelal, Superintendent of Land Records at Sambalpur, into a mere office hand, and I had to secure the transfer of this officer. Now the process is repeated at Chhindwara with the same undesirable but inevitable results, *viz.*, a general slackening in Land Record administration. I beg to invite a contrast between the amount of touring done by the Superintendent of Land Records, Betul, under

Mr. Standen, with that accomplished in Chhindwara. In Betul 531 villages were visited as compared with 220 in Chhindwara, and nearly five times as many khasra entries were tested by the Superintendent. The Administration has created these new appointments to ensure the proper supervision of patwaris on the spot. The essence of the appointment is that the Superintendent of Land Records should be peripatetic, and it is not intended that he should be tied to head-quarters during the open season, whatever be the conditions of the year. There are other districts in which the Superintendent has done insufficient field work, *viz.*, Damoh, Mandla, Seoni and Balaghat, and in a famine year this official should, if anything, do more touring than in normal times. I need only add that I concur with the Deputy Commissioner of Chhindwara that the average number of entries checked by the Superintendent of Land Records per village, *viz.*, 13, is barely sufficient to enable a correct impression to be formed of how the patwaris are working.

Inspection of village records by Tahsildars.

19. The number of villages in which records were inspected by Tahsildars have fallen from 2,754 to 2,494 or by 260 as shown below :—

Name of Division.	1899.	1900.	Difference.
Jubbulpore	719	977	258
Nerbudda	684	693	9
Nagpur	1,241	728	—513
Chhattisgarh	110	96	— 14
Total ...	2,754	2,494	—260

There is a satisfactory awakening of interest in the Jubbulpore Division, which may safely be attributed to the influence of the Commissioner, Mr. J. B. Fuller, C. I. E. This year's figures for the Nerbudda Division include testing done in Betul and Nimar, which districts were in the previous year under settlement. The Tahsildar of Chhindwara who checked only 223 entries is deemed by his Deputy Commissioner to have neglected his duties in this important matter as he had very little famine work to do. I presume the laches of this officer has been brought separately to the notice of the Administration.

The falling-off in the Nagpur country (where the Tahsildars have during the past two years done half the testing effected by this class throughout the Provinces) was to be expected in a year of famine, and calls for no remarks. In Chhattisgarh the facilities offered to Tahsildars for testing patwaris' papers were relatively limited, as settlement work was in progress when the famine broke out. The Tahsildars of Janjgir, Harda and Harsud and the Naib-Tahsildar of Hoshangabad are mentioned as having displayed interest in this work, but unfortunately the names of the officers in question have not been mentioned by their Deputy Commissioners.

20. The only Deputy Commissioners who found leisure for checking village records were Mr. deBrett, Narsinghpur, 571 entries in 59 villages; Mr. Mayne, Seoni, 200 entries in 20 villages; Mr. Chitnavis, Wardha, 122 entries in 20 villages; Mr. Walker, Nimar, 262 entries in 25 villages. Mr. Patuck, I. C. S., is the only Assistant Commissioner who is mentioned as having contributed to the work. The rest was done by Extra-Assistant Commissioners, some of whom were on special duty in connection with abatement proceedings in the north of the Provinces.

Checking of jamabandis by Kanungoes.

21. The amount of checking by Kanungoes has increased by 13 per cent. and the number of errors brought to light has again fallen. But the Kanungoes of Chhindwara, Bhandara, Bilaspur and Sambalpur have apparently been singularly idle, and should be given to understand that more will be expected of them during the current year.

22. The circumstances of the year have been of a very special character and the personnel of the establishment has been much affected thereby. It is usual for the bulk of the Superintendents of Land Records to be absent on deputation in the Settlement Department or on Foreign Service. This year several more were required for abatement work and others were employed as Charge Officers. The work attaching to the posts of Superintendent and Assistant Superintendent of Land Records was therefore performed, with few exceptions, by acting men. Moreover, in each district all the best Revenue Inspectors were on deputation as Charge or Assistant Charge Officers. At the same time the cadre of Revenue Inspectors was doubled or trebled according to famine exigencies and the bulk of the newly-created temporary appointments were filled by the most deserving patwaris. To fill the vacancies in patwari circles every effort was made to secure qualified candidates, but such was the strain in some districts, that men had to be summoned from the highways and hedges to man the vacant circles. Under the circumstances it is very creditable that the Department has emerged so well from the ordeal of the past year, and before proceeding to deal with the question of punishments I would quote a few extracts from the reports of Deputy Commissioners.

The Deputy Commissioner, Saugor, writes: "What with revision of settlement, suspensions of rent and revenue, village relief and census, patwaris have had a great deal of work to which the staff as a whole seems to have buckled down willingly and well." The Deputy Commissioner, Jubbulpore, writes that "with few exceptions the work of the Land Record Staff has been deserving of all praise. They have worked hard, and without them it is hardly possible to conceive how the difficult task of famine administration could have been carried through with the ease and smoothness which have been noticeable in the past year's operations". The Deputy Commissioner, Nagpur, describes the Land Record Staff as the back-bone of the relief organization, and states that they proved themselves on the whole an efficient and trustworthy body of men. The Deputy Commissioner of Balaghat alleges that the success of the famine administration was in a great measure due to the devoted way in which each officer met in his circle the grave responsibilities of his work. On the other hand, the Deputy Commissioner of Bilaspur considers his Patwari staff an uncommonly bad one, while the Deputy Commissioner, Sambalpur, states that he cannot speak well of the staff of Revenue Inspectors, and that with one or two exceptions he found them stupid and unreliable.

23. The work of the Superintendents and Assistant Superintendents of Land Records has been satisfactory with one exception, which resulted in the transfer of the Acting Superintendent from Sambalpur to Balaghat.

Conduct and discipline of the Land Record Staff.

24. Compared with the punishment roll of the preceding year the number of Revenue Inspectors punished shows a large increase. The punishments are contrasted below:—

Description of punishment.	Number of Punishments.	
	1898-99.	1899-1900.
Dismissal	5	1
Reduction (including loss of field allowance) ...	7	5
Suspension	1	6
Transfer	3	1
Fine	41	129
Total ...	57	142

The aggregate fines inflicted amounted to Rs. 690-7-3 compared with Rs. 252 in the preceding year and Rs. 738 in 1897-98. A number of the punishments have fallen on the temporary staff of Famine Circle Officers which renders

any useful contrast of the figures of the two years impracticable. But it is noticeable that in five districts it was possible to carry on without any fines at all, whereas in Bhandara no less than 60 fines were inflicted for neglect of duty. The reason assigned by the Deputy Commissioner, Bhandara, for this heavy punishment roll is that during the year under report there were 22 Revenue Inspectors, or more properly Circle Officers, against 9 in the previous year to be fined. The majority of these Circle Officers were patwaris new to the work, who did not realize at once the necessity of submitting prompt returns as recognized by experienced Revenue Inspectors. I observe, however, that most of the regular Inspectors have been fined, and on one man ten fines aggregating Rs. 30 were inflicted between April 1900 and February 1901. Comparison with other districts indicates that fining has been too indiscriminate in Bhandara, and I question whether increased efficiency has been thereby secured.

25. The list of punishments inflicted on patwaris shows a slight falling-off when compared with the roll of 1898-99 as is indicated in the statement below:—

Description of punishment.	Number of punishments.	
	1898-99.	1899-1900.
Dismissal	147	93
Reduction	8	5
Suspension	60	92
Transfer	33	27
Fine	807	828
Total ...	1,055	1,045

Of the 93 dismissals 8 were for non-residence, 39 for misconduct, 29 for neglect of work, 12 for dishonesty, 2 for pecuniary embarrassment, and 3 for physical inability to perform the duties of the post. Bilaspur heads the list of punishments. Raipur comes next with 102 punishments including 11 dismissals. The districts in which the smallest punishments are inflicted are Nimar, Chhindwara and Balaghat.

Rewards aggregating Rs. 1,132 were granted to patwaris for good work in the districts of Saugor, Jubbulpore and Bhandara. The Deputy Commissioner of Damoh is of opinion that good work amongst patwaris should always be encouraged by the grant of rewards. His views have my full concurrence, and it is a matter of regret that I have recently had to withhold my sanction to the grant of some rewards recommended by the Deputy Commissioners of Seoni and other districts on the ground that funds were not available. It has been necessary during the past year to pay away such large sums to patwaris from the Treasury to compensate them for the loss of their local dues, that with a much reduced income from patwari cess the Fund is now bankrupt.

The Deputy Commissioners of Mandla and Damoh have acted on the suggestion of the Commissioner of Jubbulpore alluded to in paragraph 22 of my predecessor's report of 1900, and have taken steps to acquire a personal knowledge of their Land Record Staff, so that they are not now obliged to rely too implicitly on the reports of their Superintendents. This is clearly a step in the right direction. Patwaris work much better when they feel that the Head of the District takes a personal interest in them.

Sanads for Improvements.

26. The issue of *sanads* for agricultural improvements effected by landlords and tenants is generally dealt with under this section.

The return for the year is as follows :—

Saugor	...	3	Wardha	...	125
Damoh	...	51	Nagpur	...	20
Jubbulpore	...	33	Chanda	...	3
Mandla	...	36	Bhandara	...	56
Seoni	...	2	Balaghat	...	17
Narsinghpur	...	21	Raipur	...	*Nil.*
Hoshangabad	...	*Nil.*	Bilaspur	...	183
Nimar	...	„	Sambalpur	...	*Nil.*
Betul	...	51			
Chhindwara	...	*Nil.*	Total	...	601

Last year only 216 sanads were granted. This important matter has received greater attention in some districts during the period under report.

Systematic action was taken by Mr. Low, the Settlement Officer of Bilaspur, to ascertain what improvements were made, and 183 sanads were issued. In Wardha a large number of wells were made primarily for the improvement of the water supply, but with the ultimate intention of their utilization for irrigation purposes. The Deputy Commissioner of Nimar states that he granted 862 licenses for blasting purposes as compared with 122 in the previous year, but no sanads were issued. Here, as in other districts, the Land Record Staff may have been engrossed in famine administration, but no time should now be lost in catching up arrears, and in issuing sanads where they have been earned. The Deputy Commissioner has been addressed on the subject. The number of applications (52) received in the Mandla District is certainly a striking feature, and indicates that even in backward tracts the people are beginning to appreciate the intentions of Government in respect to the exemption of improvements from assessment. The Deputy Commissioner of Sambalpur states that a great deal of work has been effected during the year for which sanads will be granted during the current year. There must presumably be other districts to which the same remarks apply.

SECTION III.

UTILIZATION OF LAND RECORDS.

Circle Note-Books.

27. Before Settlement operations in Bhandara and Balaghat were brought to a close, the entries in the circle note-books were nearly completed. As regards the former district, however, the area of home-farm and ryoti land for 206 villages of the Sakoli Tahsil has still to be entered up, as the settlement misls of these villages (which were announced during the year under report) were not ready for the purpose in time. In Saugor, the books are reported to have been very incomplete, but have now been written up for all villages except about 200 in which the figures for 1900 have still to be entered. In Hoshangabad, the figures for the year under report have been entered, except rental collections, which it is stated will be written up very shortly. The same is the case with the books in the Nagpur and Narsinghpur Districts. In Betul all the sheets were written up during the rains, and now that the revised halkabandi is sanctioned, they will be bound up into volumes. In Chhindwara, the books of only two circles were completed during the year.

It is hoped that all arrears accruing prior to or occasioned by the famine will be disposed of during the next rains.

Village Note-Books.

28. The old procedure by which village note-books were annually written up involved the books being sent first to the police out-post and then to the tahsili during the rains. This system did not work well. Many books got lost or injured in transit. Delays occurred with the Police or Kanungoes, and the books were not forthcoming on the spot in the camping season. It has now been settled that these books should be filled up in the village by the Revenue Inspectors

and Head Constables on beat duty, but the orders affecting the change were only issued last September, and their effect will not be preceptible for another year. Another small change deserves passing notice. The demand and collections of malik-makbuzas are to be shown in future in columns 12 and 13 of Statement VII below the rental entries. This arrangement should obviate wrong inferences being drawn from the statistics which was inevitable in the past, especially when the malik-makbuza class was important. The orders in question bear date the 7th May 1900, but no effect has yet been given to them in some districts, *e. g.*, Narsinghpur. Probably they were lost sight of in the press of famine work.

Famine Note-Books.

29. During the year under report my *locum tenens* obtained the sanction of the Honourable the Chief Commissioner, to dispense with the famine note-books in the case of the Raipur and Bilaspur Districts, but to require Settlement Officers to make notes of suitable works in the village note-books at the time of attestation (Secretariat No. 2953, dated the 19th July 1900).

SECTION IV.

SCIENTIFIC AND NATIONAL ENQUIRY UNDER IMPERIAL CONTROL.

30. The Provincial Land Record Department in the Central Provinces is called upon from time to time to co-operate with the following Imperial Departments:—

(1) The Survey Department.
(2) The Meteorological Department.
(3) The Department under the Reporter on Economic Products.
(4) The Department of Agricultural Chemistry.
(5) The Civil Veterinary Department.
(6) The Statistical Department.

Co-operation with Survey Department.

31. No original survey work was carried out during the year under report, but the amendment of maps and records in the Sambalpur and Bargarh Tahsils of the Sambalpur District and in two Zamindaris of Raipur was undertaken as part of the settlement operations.

Topographical maps.

32. At a conference held at Nagpur on the 13th August 1900, at which the Deputy Surveyor-General, the Chief Secretary to the Chief Commissioner, and the Settlement Commissioner were present, the following subjects were discussed:—

(1) Maintenance of cadastral maps.
(2) Revision of topographical maps.
(3) The amount of traversing remaining to be done in the Central Provinces.
(4) The control and location of the Drawing Office.

As to (1) it was decided that no addition to the number of officers of the Survey of India Department to superintend the revision of the cadastral maps of districts prior to re-settlement was needed by the Local Administration.

Under head (2) the enlargement of the Traverse Detachment in the Province to provide an establishment for the compilation and correction of the standard sheets of the Province was referred to.

As to (3) the Deputy Surveyor-General intimated that a great portion of the area surveyed by local agency with compass and indicator would probably have to be retraversed by professional agency before the Drawing Office could utilize the materials of these surveys for incorporation in the standard sheets.

For the rest it was agreed that the control of the Drawing Office should vest in the Deputy Surveyor-General and should be located for the present in the division in which map compilation is being conducted.

During the year under report the small survey party now working in these Provinces under the Extra-Deputy Superintendent of Survey traversed an area of 950 square miles including two square miles of the Pendra-Kenda boundary, regarding which there exists a dispute between the respective zamindars.

Co-operation with the Meteorological Department.

33. The rainfall statistics of the Province were compiled as usual in this office and transmitted to the Meteorological Reporter to the Government of India. The efficiency of rainfall registration during the year 1899-1900 was separately reported upon in this office letter No. 2014-107, dated the 26th June 1900.

Path of hail-storms.

34. The reports of hailstorms which occur in any part of the Province are obtained as they occur and sent, with skeleton maps to illustrate the course of each storm and its approximate breadth, to the Meteorological Reporter to the Government of India. During the year reports on the following storms were submitted:—

Name of district.	Number of storms.	Date of occurrence.
Chhindwara	One	27th April 1900.
Seoni	One	13th and 14th January 1900.

Action taken on requisitions of the Reporter on Economic Products.

Pottery.

35. Last May the Reporter on Economic Products to the Government of India asked for the co-operation and assistance of this Department in obtaining a lump of each form of clay or other material used by the potters of the various districts where the manufacture of pottery is carried on; also small quantities of all the colouring materials employed. As District Officers and their staffs were overburdened with famine work it was necessary to defer asking them for specimens until they had leisure for intelligent collection. Deputy Commissioners have since been asked to make the collection, and specimens are now in course of transmission to the Reporter.

Large brown-seeded variety of linseed.

36. At the instance of the Reporter on Economic Products, I am arranging through the Superintendent of the Nagpur Experimental Farm for a collection of samples of the large brown-seeded variety of linseed. The samples and quotation of prices are required for Messrs. Hewetson, Oil Merchants, London.

Lathyrus Sativus.

37. Last February Mr. Fuller, the Commissioner of the Jubbulpore Division, addressed the Secretariat through this office on the spread in some parts of the Jubbulpore Division of the form of paralysis known as lathyrism, resulting from eating the grain of the vetch known as lakh. My predecessor forwarded the letter to the Secretariat intimating the action that had already been taken by this Department in this matter of having the grain chemically investigated at the Imperial Institute, London, and at the same time sent a copy of the letter to the Reporter with an enquiry as to whether any results had been arrived at touching the poisonous nature of the seeds. The Reporter replied that no very great progress has as yet been made nor any definite results obtained. He asked however for further samples of seed from a selection of districts such as Jubbulpore, Chhattisgarh and Seoni, together with a supply of the husked grain. The Deputy Commissioners of Jubbulpore, Seoni, Raipur, Bilaspur, Sambalpur and Bhandara were accordingly asked to furnish the Reporter with the required samples. The request has been complied with by the Deputy Commissioners, Bilaspur and Bhandara.

Sugarcane disease.

38. The results of enquiries made in the early part of 1899 by Settlement Officers and certain Deputy Commissioners as to the existence of the sugarcane disease described as "Trichoshphoeria Sacchari" in Agricultural Ledger No. 13 of 1898 shows that there is good *primâ facie* ground for believing that the disease exists in Chhindwara, Betul, Sambalpur and Jubbulpore. A memorandum showing the results of the enquiries was drawn up and circulated among the Assistant Settlement Officers of Betul and Bhandara, the Settlement Officers of Raipur, Bilaspur and Chanda, and the Deputy Commissioners of Jubbulpore, Sambalpur and Chhindwara for further investigation and submission of additional information and specimens of diseased canes.

Specimens of diseased canes were received from Jubbulpore and Sambalpur, and were transmitted to the Reporter. Owing to the district staff being fully occupied with famine, no collections were made in the other districts. The matter is receiving further attention.

Lac industry.

39. Owing to the famine much progress was not made with the enquiry on the subject of the lac industry in the Central Provinces, and with the collection of specimens of the wood from which toys are made of shell lac and of the toys themselves. The case is now, however, receiving attention.

Gondal fluid as a white-ant exterminator.

40. A circular letter has been issued to Deputy Commissioners in which they have been asked to have experiments conducted as to the effect of the Gondal fluid in checking the depredations of white-ants on road-side trees, &c. The results will be noted in next year's report.

Tacca pinnatifida.

41. Steps were taken to obtain for the Reporter information as to whether the plant called Tacca Pinnatifida was cultivated in these Provinces for the purpose of using the leaves and stalks as a braiding material. The Superintendents of the Farm and Gardens were unable to identify the vernacular name given by the Reporter to the plant, and tubers were obtained from the Victoria Garden, Bombay, for cultivation in the farm here. The tubers which were raised have been forwarded to the Reporter for identification.

Investigation into the forms of Dioscorea (yams).

42. The investigation into all the numerous forms of Dioscorea (yams) whether wild, cultivated, indigenous or exotic, was postponed on account of the famine. The attention of District Officers, whose co-operation in the collection of specimens was previously sought, is now being re-invited to the matter. Nineteen varieties of tubers which are used as food by the wild tribes of Balaghat have been received from the Deputy Commissioner of that district, and will be transmitted to the Reporter. The Deputy Commissioner, Narsinghpur, has also forwarded nine specimens collected by the Forest Divisional Officer direct to the Reporter.

Returns of mineral productions.

43. The returns relating to the production of minerals were compiled in this office and submitted to the Reporter, through the Provincial Secretariat, accompanied by reports on the iron industry of the Provinces by Deputy Commissioners and Forest Officers.

Co-operation with the Department of Agricultural Chemistry.

44. In paragraph 42 of the report for 1898-99 it was stated that it was necessary to postpone the supply to the Agricultural Chemist of the Government of India, for the purpose of chemical analysis, of small quantities of various food-grains, oil-seeds and fodder. The matter has been taken up since the close of the famine and the undermentioned samples are in course of collection and transmission to the Agricultural Chemist :—

Name of sample.	District from which collected.
Rice, early and late varieties ...	... Bhandara.
Do. do. ...	... } Raipur.
Tur, early variety, with husk as fodder	... }
Mung	... Nagpur.

Juar (ringni) with karbi	Balaghat.
Urad, lakh and lakhori	
Juar, early and late varieties	Wardha.
Castor, rainy and cold season crops... ...	
Kodo with straw as fodder	Bilaspur.
Wheat (bansi and pissi) with straw as fodder ...	Hoshangabad.
Linseed, white and red	
Gram, white and red varieties	Jubbulpore.
Peas	
Rice, early and late varieties	Nagpur, through Superintendent, Experimental Farm.
Juar	
Tur, late (kathia and howra variety, with husk as fodder.) ...	
Wheat	
Til (rain and cold season varieties)... ...	
Khardi	

Veterinary work.

45. The office of Superintendent, Civil Veterinary Department, remained vacant during the whole year. Reports on outbreaks of cattle disease sent from Tahsildars were dealt with by my Assistant. During the year the sanction of the Chief Commissioner was obtained to the entertainment as a temporary measure of an extra Veterinary Assistant on Rs. 30 per mensem, payable from Provincial Funds, for employment on peripatetic work. During the summer of 1900 he was employed at Pachmarhi, where no veterinary assistance is available and where the inspection of the Piparia-Pachmarhi dâk line is very necessary. Towards the end of June the Veterinary Assistant was deputed to Damoh, where cow-pox had broken out and was increasing in alarming proportions. The Veterinary Assistant toured in the Sitanagar, Patharia, Damoh and Hindoria Circles, where the disease was reported worst, but he found that the disease had greatly subsided with the setting in of the monsoon. During the remaining part of the year the Veterinary Assistant has been attached to the Nagpur Veterinary Dispensary and his services are utilized in inspecting weekly the horses of the Chief Commissioner's escort; (2) the horses of the Nagpur mounted police; (3) the Dairy cattle at the Lunatic Asylum; and (4) the Farm and Garden cattle and the animals in the menagerie. With the approval of the Deputy Postmaster-General, Central Provinces, the Veterinary Assistant was deputed last September to inspect the ponies on the Warora-Chanda and Itarsi-Betul tonga dâk lines. The Veterinary Assistant's notes embodying the results of these inspections were sent to the Deputy Postmaster-General, Central Provinces.

Horse-breeding.

46. There are at present four horse stallions in the Provinces—three (Yakubkhan, Shamsher and Fussy) at Saugor, and one (Sultan) at Narsinghpur; also a donkey stallion (Burj) at Saugor.

The usual statement showing the number of mares served by the horse and donkey stallions is given below:—

District.	Name of stallion.	Number of mares served during quarter ending				Total.
		December 1899.	March 1900.	June 1900.	September 1900.	
Saugor ...	Yakubkhan ...	6	2	8	3	19
	Shamsher ...	7	4	8	3	22
	Fussy	10	4	11	6	31
	Burj (Donkey) ...	3	3	3	3	12
Narsinghpur ...	Sultan ..	1	5	8	1	15

It was stated in last year's report that the District Superintendent of Police, Saugor, was not favourably impressed with Fussy's capabilities, but the above

figures show that this year Fussy has been made most use of. The results of the coverings of the stallions in the Saugor District in 1898-99 are given below :—

Name of Stallion.		Number of mares covered.	Results of coverings.			
			Number of mares foaled.	Number of mares miscarried.	Number of mares died while pregnant.	Number of mares not held.
Saugor ...	Yakubkhan ...	32	6	3	2	21
	Shamsher ...	35	8	4	4	19
	Fussy ...	9	...	2	2	5
	Burj (donkey) ...	20	5	3	3	9

These results certainly appear unsatisfactory. It is hoped that we shall shortly have a Superintendent, Civil Veterinary Department, to look into the matter and render professional advice.

The District Superintendent of Police, Narsinghpur, reports that of the 21 mares covered by Sultan during 1898-99 only two births of colts have been registered. He has promised to make enquiries as to the results of the other coverings and to report further in the matter.

Since the close of the year an Arab horse, Sunbeam, has been presented to the Department by Mr. A. L. Saunders, I. C. S., Deputy Commissioner, Nagpur. The stallion will be employed at Saugor, and one of the stallions that has stood longest in this district will be transferred to Damoh. In the latter district horse-breeding operations have been in abeyance since 1897, in which year the stallion (Farmer Hodge) was transferred to the Police Department.

Veterinary Dispensaries.

47. There were eight Veterinary Dispensaries in these Provinces at the close of the year, a new dispensary having been established at Saugor in February 1900. The extent to which the dispensaries have been used by the public is shown by the following figures, which are contrasted with those of the previous year where the latter are available :—

District.	Number of cases treated.				Average daily attendance.		Number of operations performed.	
	Horned cattle.	Horses.	Other animals.	Total.	1898-99 (October 1898 to September 1899).	1899-1900 (October 1899 to September 1900).	Major.	Minor.
Nagpur ...	1,128	843	864	2,835	16·62	14·60	10	145
Raipur ...	305	682	431	1 418	13·30	14·56	13	99
Jubbulpore ...	380	360	62	802	...	2·09	28	55
Hoshangabad ...	219	79	70	368	...	5·68	1	37
Wardha ...	401	245	269	915	11·40	10·10	7	33
Bilaspur ...	938	207	145	1,290	...	18 81	...	...
Mandla ...	187	220	68	475	17·64	15 56	3	13
Saugor ...	541	511	284	1,336	...	12·29	2	33

48. Mr. Pillay has continued to perform the professional and instructional duties listed in paragraph 46 of last year's report. It is noteworthy, however, that the daily attendance at the Nagpur Dispensary shows a tendency to decline, and the institution requires sustained countenance and support from the local officers, as also from the District Council and Municipal Committee. Moreover, I do not consider that the services of the second Veterinary Assistant, who is intended for peripatetic work, have been adequately utilized. He visited only 11 villages in the interior of the district between April and September. Better results will be expected this year, now that famine is over, and the Veterinary Assistant (who recently passed out of the Ajmere Veterinary College) has become more conversant with his duties.

49. Most of the new dispensaries appear to be gradually acquiring popularity, the exceptions being Jubbulpore and Hoshangabad. At the former place we have a graduate of the Bombay Veterinary College in charge, and if once he can gain the confidence of the people, he should do well. But he requires the assistance of the District Council especially at the outset, and I trust that this will not be withheld. The Veterinary Assistant of Hoshangabad was sent out on several occasions to combat rinderpest. He distributed medicines and gave advice to the people, but the Deputy Commissioner states that there is as yet no appreciable change in the attitude of the people generally as regards the treatment of cattle disease.

The institution at Wardha is reported to be making progress, and the Veterinary Assistant has displayed activity in touring. But the want of a suitable building centrally situated as well as the need of suitable stables is felt. The District Council may be in a better position to supply these wants when the effects of the famine have worn off.

50. During the year the sanction of the Local Administration was obtained to the deputation of two new students to the Ajmere Veterinary School. Of the two selected students one belonged to the Saugor, the other to the Nagpur District. One is reported to have neglected his studies and his scholarship will be withdrawn. Only one student will then become available for employment in 1901 and one in 1902. But as, owing to agricultural depression caused by the famine, the expansion of the Department is temporarily arrested, these men should suffice for our requirements in the proximate future.

The consideration of the scheme formulated by the Government of India for the improvement of the pay and prospects of the Subordinate Civil Veterinary Department has been delayed in this office owing to the famine and has only recently been submitted with my opinion to the Secretariat.

Warbles.

51. Owing to the pressure of famine duties none of the Raipur District Staff were able to collect during the camping season of 1899 any useful information regarding the local prevalence of the disease known as "Warbles." Since the close of the year ten additional copies of the Government of India, Revenue and Agriculture Department, Circular No. 17—131-4, dated the 12th November 1898, with enclosures, have been forwarded to the Deputy Commissioner, Raipur, for issue to his assistants to enable them to collect the necessary information during the present camping season. Mr. Low, I. C. S., Settlement Officer, Bilaspur, collected some flies in August 1899, which on being sent to the Inspector-General, Civil Veterinary Department, were pronounced to belong to the species "Lucillia Caesar," known in India as the "Hari makhi" or green fly.

Enumeration of live-stock and registration of cattle disease.

52. The following statistics of live-stock cannot as yet be guaranteed as accurate, but in those districts (marked with an asterisk in the statement below) where the Patwaris have settled down after revision of settlement they are probably more reliable than elsewhere. Contrasted with the figures of the previous year the number of cattle shows a falling-off of 184,570 or by 7 per cent. But it will be

understood that these statistics were compiled too early in the year to show the mortality caused by the famine. The increase in Mandla is probably due to the influx of cattle from other districts for purposes of pasturage.

District.	Number of plough-cattle.	
	1898-99.	1899-1900.
Saugor *	92,879	90,759
Damoh *	77,044	72,141
Jubbulpore *	171,946	168,365
Mandla *	69,392	75,518
Seoni *	81,304	75,201
Narsinghpur *	57,392	57,692
Hoshangabad *	149,654	126,868
Nimar *	84,063	66,289
Betul *	88,233	87,044
Chhindwara *	122,701	117,895
Wardha *	98,250	92,490
Nagpur *	157,596	143,141
Chanda	189,772	189,772
Bhandara	184 257	176,370
Balaghat	85,803	86,465
Raipur	483 938	485,754
Bilaspur	360,757	253,666
Sambalpur	291,277	285,258
Total ...	2,846,258	2,661,688

The conditions of the year were generally favourable to the outbreak of disease, as the cattle were debilitated owing to the scarcity of fodder and drinking water, but every possible step was taken by Government to supplement the water-supply and the Government forests were thrown open to the people throughout the Provinces. In spite of these measures the mortality amongst cattle is stated to have been unusually heavy in many parts of the Provinces. In the Nagpur country the supply of *karbi* was very fair in spite of the drought, and in Betul the fodder was supplemented by grass taken either from depôts or the Government forest. But at the end of the hot weather the scarcity of fodder was very severely felt in not a few districts. In many parts of Jubbulpore, for instance, the *pipal* trees were stripped of their leaves to afford the necessary sustenance to live-stock.

The registers of live-stock were, as already stated, written up early in the season and afford no indication whatever of the mortality that occurred in the months preceding the advent of the monsoon. The trade in skins has however been very brisk as the statistics of our rail-borne traffic show; while in the Wardha District report it is stated that the profits from the sale of hides were instrumental in keeping many of the Wardha kotwars from becoming dependent on Government charity.

Still, in spite of considerable losses, there is every reason to be thankful that matters were not worse. The recently submitted statistics of the last summer sowings are fairly satisfactory in most districts, especially those in which juar is the staple. They only afford ground for anxiety in the rice-growing tracts, and such enquiries as I have been able to make during the present camping season point to a deficiency of seed rather than of plough-cattle as explaining short sowings.

53. *Rinderpest* broke out in eleven out of the eighteen districts, and the number of cattle which died from the disease in the Balaghat, Raipur, and Bilaspur Districts is estimated at 11,926, 12,812 and 14,908, respectively. *Rinderpest* was brought into Betul by cattle from Berar, but fortunately the loss amongst local cattle was not great.

Cow-pox was rather severe in Damoh, Mandla, Seoni and Nimar.

Foot and mouth disease of a virulent kind broke out in the Burhanpur Tahsil of the Nimar District. The largest number of deaths from anthrax is reported from Nagpur, *viz.*, 8,673.

In the remaining districts cattle disease broke out from time to time, but the outbreaks were not of a virulent or wide-spread character. The Deputy Commissioner of Seoni believes that cattle-poisoning for the sake of the hides has been more extensively practised than usual. But, as he observes, it is difficult to detect these cases. One case of inadequate punishment for this offence was submitted to the Judicial Commissioner, and an enhancement of sentence obtained. In Bhandara stealing of cattle for food has been somewhat prevalent. In Balaghat 18 cases of cattle-poisoning for the sake of the hides and 149 cases of cattle theft for the sake of food are reported to have occurred.

Very little or no attempts at segregation of diseased cattle is reported. Indeed, little could be expected in this direction in such a year when so large a proportion of the people were away from their homes on relief works. The Deputy Commissioner, Narsinghpur, however reports having come across one man, a patwari, who had tried the remedies prescribed in the pamphlet on the treatment of cattle diseases. His efforts had met with success, and he had endeavoured to induce other people in his circle to adopt the same remedies, but they declined to do so. Segregation is rarely practised and people prefer the old-fashioned modes of treatment. For all that the instance above quoted shows that some good is done by circulating simple pamphlets, and encourages one to hope that more enlightened methods will ultimately prevail.

Cattle-breeding.

54. Since the close of the year I have submitted for the consideration of the Honourable the Chief Commissioner a scheme for the establishment of a Provincial Cattle-breeding Farm at Telinkheri to be managed by the Superintendent, Government Experimental Farm, Nagpur. The scheme has been accepted and will be carried into effect as soon as funds are available.

Co-operation with the Statistical Department.

55. The annual agricultural statistics have been prepared as in previous years and submitted to the Director-General of Statistics.

The quarterly and annual returns of rail-borne traffic were reviewed as usual and submitted to the Statistical Bureau. The only change made in the character of the returns has been the separate record of the trade in sugar, unrefined, under the sub-heads (*a*) Sugar and (*b*) Gur (Jaggery).

Crop-cutting experiments.

56. The number of crop-cutting experiments conducted during the year under report was 667 as compared with 1,464 in the previous year. The decline in the number of experiments is mainly due to the Settlement Department being for the time practically in abeyance, its contributions having fallen from 990 to 235.

The extent to which the various classes of officers contributed is as follows:—

Deputy Commissioners	...	20
Assistant Commissioners	...	77
Extra-Assistant Commissioners	...	335
Total	...	432
Settlement Officers ...	...	37
Assistant Settlement Officers	...	160
Superintendents of Land Records	...	38
Total	...	235
GRAND TOTAL	...	667

Of these crop cuttings 380 were made with kharif and 287 with rabi crops.

Other experiments were also carried out for administrative purposes by officers of inferior status, but under the rules in force these are not compiled in this office. The results of the experiments tabulated from year to year are reviewed quinquennially, and the necessity of revising the provincial table of standard outturns is then considered.

SECTION V.

SCIENTIFIC AND LOCAL ENQUIRY UNDER PROVINCIAL DIRECTION.

57. The Experimental Farm near the Maharaj Bagh, Nagpur, is the only institution of the kind in the Central Provinces. But some Government land at Telinkheri has latterly been managed by Mr. R. S. Joshi as an annexe to the old Farm. This officer also looks after the Fuel and Fodder Reserve at Telinkheri and is Principal of the Agricultural Class as well as Curator of the Nagpur Museum.

Owing to the unfavourable circumstances of the season the year must be deemed an *annus non* in the history of the Farm. In calculating the average results of the various experiments, the yields of this year will be ignored except in the case of cotton and til.

No rabi crops could be sown. Of the kharif crops only til and cotton came to real maturity. Juar grew to a great height, but ultimately came to naught.

The only lesson to be drawn from the year is the extraordinary hardiness of the cotton, which in spite of the drought gave at least an average yield in quantity though the quality was deficient and the fibre weak.

58. The Telinkheri Farm was only taken over in June 1899. The fields were much overrun with weeds, and it will take time before they are finally overcome. Mr. Joshi was very busy extirpating *kans* with the heavy Cook's plough, drawn by three pairs of strong bullocks, diverting water-courses which spoilt some of the fields, uprooting stumps, and generally cleaning up and improving the land preparatory to using it for experimental purposes. At the same time quarters for the Overseer of the Farm and Gardens and airy cattle-sheds have replaced the old dilapidated huts. The Farm stock has also been improved by the purchase of new bullocks. Owing to the position of the Farm lands under the bund of the tank some crops were raised in spite of the famine. This Farm should prove a valuable property as time goes on.

It comprises some fields in which spring crops can be profitably grown, whereas the soil of the Nagpur Experimental Farm is so notoriously unsuitable for rabi cultivation that Doctor Leather was inclined to recommend the abandonment of experiments in rabi cultivation.

59. The Kachis who cultivate the sewage farm were deprived of the usual supply of waste water from the Ambajheri Reservoir, and it was necessary to remit two-thirds of their rent, which has involved a loss to Government of Rs. 731. This is a merely temporary feature. The most satisfactory point in connection with this sewage farm is that financial equilibrium between income and expenditure may be expected in future, provided seasons are normal. Hitherto from the time of its inception this experiment has cost the State several hundreds of rupees annually. It was felt some years ago that the time had come to make it self-supporting, as the Nagpur folk had been taught to raise vegetables on the Cawnpore system. I decided therefore on some retrenchments, one of which was dispensing with the services of the Jamadar, leaving the Kachis to distribute the water-supply by *panchayat*. For the rest I enhanced the payments of the Kachis on the lapse of their leases. Other economies have been effected, and I hope this year the

institution will pay its way. It may then, I think, be claimed to be a success, for the Municipality gains from our operation in two ways :—

(i) It gets part of its sewage pitted free of cost.

(ii) It derives a small income of Rs. 100 from the farm for sweepings, &c.

Introduction of juar and cotton into black-soil tracts in Chhattisgarh.

60. Doctor Vœlcker in his report on Indian agriculture has laid down that one of the best modes of improving Indian agriculture is to introduce good methods of cultivation that have proved successful in more enlightened districts into other tracts where rougher systems prevail, and to substitute superior crops for inferior staples. Acting on this advice we have for the last few years been endeavouring to establish in the Mungeli Tahsil of Bilaspur the cultivation of juar on the Nagpur plan of sowing in rows in place of the broadcasted kodo. The operations have been controlled by Mr. C. E. Low, I. C. S., the Settlement Officer, who takes much interest in agricultural matters. The opportunity has also been taken to test the suitability of the Mungeli soil and climatic conditions to cotton culture. In May 1900 thirty *khandis* of juar seed and four *khandis* of cotton seed, costing Rs. 824-10-3, were obtained in the Nagpur market and despatched to the Settlement Officer, Bilaspur, for distribution to landlords and tenants in Mungeli and Pandaria, the value of the seed being recovered from well-to-do persons. Some local labourers were also entertained in Nagpur by the Assistant Settlement Commissioner and sent to Bilaspur in July. The salaries of these labourers were paid from the grant for miscellaneous experiments.

The juar crop of 1899-1900 failed in high-lying and succeeded in low-lying fields: the converse was the case this year. Some damage also occurred in river-ain areas this year owing to floods, as sloping fields along the banks of streams were in many cases selected for experiment. The Settlement Officer, Bilaspur, has not been able to furnish separate figures regarding the areas properly cultivated under the supervision of the Nagpur labourers, as many of the fields with which they were concerned were sown broadcast and weeded by hand. In fact sowing in lines and mechanical weeding were only resorted to in a minority of cases. Mr. Low regards it as fairly well established that juar will grow in any *kanhar* or *dorsa* I field in which *kodon* will thrive, and that the last two extraordinary seasons have shown that *kodon* will fail under the same excess or deficiency of moisture as juar. Mr. Low points out that for the experiment to be a success it is necessary—

(i) that the fields should be properly cleaned in April and May, babul trees and anukhe (*kalotropis*) being eradicated;

(ii) that the cattle should be provided with nose strings, and trained to walk straight between the rows of crops;

(iii) that the *labourers* should be properly supervised by a selected officer on the spot;

(iv) that a sufficient number of *dauras* (bullock hoes), &c., should be prepared locally; and

(v) that the people should be encouraged to watch their crops.

To ensure these objects the Settlement Officer suggests the deputation of a competent Revenue Inspector to this special work from April to November of the current year. Mr. Low adds that the people mean to continue and extend their juar cultivation. The idea is stated to have caught on and is being much talked about, but steady effort for another year or two is required. The Administration has been recently addressed on the subject and orders are awaited. I have represented that this experiment has a two-fold importance; for if success crowns our efforts, not only will the food supply of the Provinces be increased, but the condition of the wretched Chhattisgarh cattle (which are now supported mainly on innutritious rice straw) should improve under a diet of *karbi* and cotton seed.

Mr. Low brings prominently to notice the good work done by Mr. G. M. Gordon, Missionary of Mungeli, in the cause of agriculture by establishing what is virtually a model farm in his village Pendridih near Mungeli. As soon as a peripatetic Assistant to the Director of Agriculture is appointed we should be able to establish with advantage a closer connection between the Nagpur Experimental Farm and the Missionary Farms of Damoh, Bilaspur and Thana in Nagpur.

Introduction of cotton cultivation in the Rajnandgaon and Khairagarh Feudatory States.

61. In order to assist the Director of the Bengal-Nagpur Cotton Mills at Rajnandgaon in his efforts to induce the cultivating classes of the Rajnandgaon and Khairagarh Feudatory States to grow cotton, the Superintendent of the Government Experimental Farm, Nagpur, with the sanction of the Honorable the Chief Commissioner, was at the joint expense of both States deputed last May to inspect the soil of these States and examine its suitability for the growth of cotton and to advise generally as to the best method of its cultivation. On his return from his inspection Mr. Joshi drew up a note describing the principles of cotton cultivation. This note was translated into Hindi and 600 copies of the same were forwarded to the Diwans of both States for distribution to cultivators. Samples of each of the implements, *viz.*, seed-drill and *daura* (bullock hoe) used in cotton cultivation in the Nagpur country were also sent to the Diwans as patterns for the local manufacture of similar implements.

In the two Feudatory States 51,848 seers of cotton were distributed for seed purposes, the conditions being that the loans should be refunded, but that no interest should be charged. The bulk of the advances have been recovered.

In the Khairagarh State 1,600 acres of land were sown with cotton from seed so supplied. A few tenants are reported to have sown their fields according to the method described to them by Mr. Joshi, while a large number are said to have followed the old broadcast plan. The heavy rains of September and October caused some injury to the crop, but the yield is estimated at 75.

In Rajnandgaon the result of the experiment is not very encouraging. Owing to the prevailing famine the weeding of the fields was neglected and the continuous rainfall during the second fortnight of September swamped the crop over considerable areas, and the yield has been very poor.

In point of fact a famine season is not a very suitable period for trying such an experiment and there has not been time as yet for Mr. Joshi's instructions to take effect. The plan that I would suggest to these two States is that they should start experimental cultivation of cotton on a small scale on estate lands. Some trained supervision would be required so as to ensure that the experiment was conducted on approved lines, and after a few seasons we should be in a position to form a definite opinion as to whether the cultivation of this fibre can be profitably carried on in Chhattisgarh.

Cultivation of Egyptain cotton seed.

62. Two varieties of Egyptian cotton, *viz.*, *mitafifi* and *abassi*, have been grown with some success as rabi crops on the Nagpur Experimental Farm. During the past few years samples of the cotton were sent by the Manager, Empress Mills, Nagpur, for valuation to Messrs. Carver Brothers and Company of Alexandria, who have fixed the following values per boja of 345 lbs :—

			Rs.	a.	p.
Mitafifi	...	...	171	2	5
Abassi	...	...	207	8	7

These rates are very favourable indeed. The rate for the first variety is double and the rate for the second variety almost treble the rate, *viz.*, Rs. 75, commanded by *jari*, the most common local variety. I have instructed the Superintendent of the Government Experimental Farm, Nagpur, to draw up a bulletin showing the results of the experience hitherto gained by him in the cultivation of these cottons on the Nagpur Experimental Farm.

In Betul and Nimar there is a fair amount of irrigation from wells. No opportunity has as yet offered of trying Egyptian cotton in the latter district, but in Betul Mr. Standen, the Deputy Commissioner, has interested himself in the matter, and during the year 5 lbs. of *mitafifi* cotton were sent to him for experimental cultivation by intelligent malguzars.

Experiments with the date palm.

63. Experiments connected with the manufacture of date sugar in Nimar by the Khandwa Sugar Manufacturing Company were continued during the year 1899-1900. The year was an exceptionally bad one for the extraction of the date juice and the manufacture of jaggery therefrom. The operations of the Company were not then financially successful. During the season ending in April 1900 the Company produced 500 maunds of gur. The jaggery is manufactured in two varieties, *viz.*, the hard stuff and molasses. Small sales were found for both varieties in the local markets. The hard stuff was sold at Rs. 5 per maund (retail), while the molasses were similarly retailed at Rs. 2-8-0 to Rs. 3 a maund. My predecessor obtained samples of the gur from the Managing Director and sent them to Captain Berry, I. M. S., Superintendent of the Raipur Central Jail, who reported favourably. At the request of the Managing Director, my predecessor addressed the Inspector-General of Jails, Central Provinces, with a view to his patronizing the Company by obtaining the supply required for consumption at Central and District Jails from the Company's godowns at Khandwa. The matter is still under the consideration of the Inspector-General of Jails. Since the close of the year the Managing Director represented to me his need for a turbine. As there is a 22″ centrifugal turbine or drier on stock at the Government Experimental Farm, Nagpur, I offered him a loan of the machine for three months on certain conditions. The Company have accepted the offer, but have expressed a desire to have the machine tried at Nagpur.

Smut in juar.

64. During latter years I have observed that the disease of smut locally termed *kani* has taken a great hold on the juar crop in the Nagpur country. I estimate the damage round the head-quarters this year as not less than 30 per cent. and from all the southern districts I have heard the same complaint, *viz.*, that the disease is very rife. Its prevalence this season may possibly be due to the use of old seed owing to the failure of last year's crop, but some ryots whom I questioned alleged that they saved sufficient for sowing purposes from last year's outturn, and in spite of this circumstance I found their juar heavily smutted this season. I have accordingly addressed the Deputy Commissioners of all districts where juar cultivation is of importance. Their attention has been invited to the expediency of selecting clean seed for sowing purposes. They have been reminded of the remedy which has proved so efficacious on the Nagpur Experimental Farm, *viz.*, the steeping of the juar seed before sowing in a solution of sulphate of copper. This mode of treatment has been recommended in the leaflet drawn up some years ago by the Superintendent of the Government Experimental Farm and widely circulated through the agency of the Land Record Department. The calculations that I have made indicate that the security of the land revenue may be affected if this disease be allowed to extend. As it is our ryots lose lakhs of rupees annually from its ravages. I have accordingly urged Deputy Commissioners in their capacity of Court of Wards to take action in the directions above indicated, and I have moreover offered them the chance of purchasing at the bazaar rate some absolutely clean seed from the Nagpur Experimental Farm for sowing on the estates under their control. Up to date some small quantities have been purchased by the Deputy Commissioners of four districts adjoining Nagpur.

Dr. Edington's method of exterminating locusts.

65. From a letter which was submitted by the Commissioner, Chhattisgarh Division, to the Secretariat (through this office) it is observed that experiments on "grasshoppers" with the culture of the fungus used by Dr. Edington in destroying swarms of locusts in South Africa were tried by the Deputy Commissioner, Bilaspur. It appears that the cultures had no effect on these "insects," which were as lively as ever four days after their immersion. Mr. Lancaster, Assistant Settlement Officer, however

noticed that the grasshoppers are eaten up greedily by a spider which spins its web on the rice stalks. An examination of the ground in the early morning disclosed the indigestible portions, *viz.*, heads and legs, lying in quantities immediately below the web.

Protection of crops from damage by trees.

66. The year under report was generally unfavourable for testing the treatment found successful at the Nagpur Experimental Farm of digging trenches between trees and crops in their vicinity in order to save the latter from the loss of moisture otherwise absorbed by the surface roots of trees. But in Hoshangabad 30 out of 56 experiments are said to have demonstrated the advantages of the method. Some tenants in 5 villages of Bhandara are stated to have made 22 experiments, but the result is not yet known.

Fuel and Fodder Reserves.

67. The fuel and fodder reserves in Raipur are in charge of the District Council to which body the reserves have been leased at a nominal rent for a term of five years, from 1st April 1895. The term expired on the 31st March 1900. The District Council through an oversight granted a lease of these reserves for a period exceeding the term of their own lease, and permission, it is stated, has been asked to extend the tenure of the District Council until the expiry of the said lease. The income from the reserves was Rs. 1,466-1-0.

There are 14 fuel and fodder reserves in Bilaspur, seven of them are in the Bilaspur Tahsil and the rest in the Janjgir Tahsil. The income from the sale of grass during the year was Rs. 1,367-12-0 against Rs. 940-6-3 in the previous year. The reserves in the Janjgir tahsil were in charge of Mr. Lancaster, Charge Officer. The grass in the reserves was cut by famine labour and the expenditure amounted to Rs. 1,238-6-0. A large quantity of the grass was used for public purposes, *viz.*, for kitchen sheds and inspection bungalows, the private demand being very small indeed.

68. The income of the Telinkheri Reserve during the year was Rs. 1,060-8-0 and the expenditure on establishment was Rs. 123. The grass reserve of the Telinkheri Farm was sold for Rs. 505. The reserve has now been amalgamated with the forest portion of the Telinkheri lands, which were handed over to this Department by the Forest Department in June 1899. A small plot on the Telinkheri hills was reserved for the experimental cultivation of *Paspalum Dilatatum* (a fodder grass of America and Australia). Five pounds of the seed were obtained from the Manager of the Lismore Experimental Farm, Wollongbar, Richmond River, New South Wales. The seed was sown at the beginning of last monsoon and germinated well enough. This fodder grass enjoys the reputation of being drought-resistant, but it did not survive last year's drought. As soon as the drought set in the grass died along with the other local varieties. But its quality was found superior to the indigenous grasses which grow on this range of hills. The grass has, however, done very well on the Farm, and this year's experiments indicate that it is likely to thrive in this country on the banks of rivers and streams where there is moisture throughout the year.

Last September my *locum tenens* sent a packet containing $\frac{3}{4}$ lb. of the seed to Mr. Hallifax, Assistant Commissioner, Sironcha, for experimental cultivation in the sandy soil of that tahsil.

SECTION VI.

AGRICULTURAL EDUCATION.

Agricultural class.

69. There has been no new departure in connection with agricultural education. The two classes have filled fairly well, thanks to the improved prospects of employment recently held out by the Administration. But as yet all our students are attracted by the hope of entering Government service, and we have not as yet succeeded in recruiting any students of well-to-do malguzars and others who intend to return to their villages and apply themselves to the improvement of agriculture on the close of their course. This consummation is most desirable, but it may take some time to attain this end. We have now two of our passed students pursuing their studies at the Poona College of Science. I have not seen my way

to awarding a scholarship this year, as the condition that marked ability should be displayed has not been fulfilled. Scholarship-holders have to be carefully selected, as they are the men upon whom we shall have to depend in future for the extension of agricultural science. To them will be entrusted the management of our Experimental Farms, the training of our agricultural students, the introduction in practical fashion into Court of Wards Estates and the country-side generally of improvements tested at the Farms, as also the conduct of all scientific enquiries.

70. There are two divisions of the Normal Agricultural Class, one of which is situated in the building attached to the Agricultural Class, Nagpur, and the other in the Training Institution at Takli. Mr. Tamaji Krishna Jakate held charge of the former and Mr. Bhaskar Vireshwar Joshi of the latter. Both the classes were opened in June 1899. The first batch consisted of 56 schoolmasters, all of whom appeared for the final examination held on the 29th October 1899; 53 passed the prescribed test and obtained certificates.

The second session of the class opened in November 1899 with 63 students. Out of these 27 were schoolmasters selected from different districts, and 36 ex-students of the Jubbulpore, Nagpur and Raipur Normal Schools. Three students left the class before the examination took place; the remaining 60 students appeared for the examination held on the 1st April 1900, and 57 passed the prescribed test.

No effort is spared to make the instruction as practical as possible during the short period at our disposal, and I have on my visits to the Farm found that the masters display considerable interest in the lectures delivered in the field. Practical work appeals to them in the cold-weather months provided the exposure in the sun is not too prolonged. They have done much of our cotton and juar seed selection on the Farm this year by collecting the finest cobs and bolls. The damage done by smut to the juar crop was impressed upon them by visits to the cultivators' fields in the environs of Nagpur and by the offer of a reward for any smutted cob discovered at the Nagpur Experimental Farm in the fields where the seed had been specially treated with sulphate of copper.

69. In order to give effect to the new rural school curriculum, which lays down that the patwaris' papers must be read as a part of the reading lesson and the patwaris' village map studied as a part of the lesson in geography, it was decided that the best arrangement would be for the patwari to lend his map to the rural school for a few days in the rains, to enable the schoolmaster to have a tracing made. Instructions were also issued in Land Record Circular No. 35, dated the 26th September 1900, to the effect that in the cold weather the patwari should inform the schoolmaster of the date when the field-to-field inspection would be commenced, so that the boys might accompany him for a few mornings.

SECTION VII.

PUBLICATION OF AGRICULTURAL INFORMATION.

72. Much of the work done has been enumerated in Section IV. Apart from the usual forecasts, trade returns, agricultural statistics, &c., described in that section, a note on the crop statistics of 1899-1900 was prepared and published by this Department during the year under report. The publication of the bulletin on the utilization of night-soil as a manure has been deferred so that the outturns of the current year's crops might be included in it.

Trial of implements.

73. In accordance with the instructions contained in Revenue and Agriculture Department Circular No. 13-72—16, dated the 3rd May 1899, a list of agricultural implements and machines which were tested during the year ending 30th September 1900, and of those in use which were reported to have met with more or less marked success during the year, is appended to this report.

The only new implement tried this year on the farm was a corn shredder obtained from America. An old plough (Cook's heavy-beam plough) which has been in stock in the Farm since May 1874 proved to be of exceptional service in breaking up the stiff soil at the Telinkheri Farm, a steel share having been substituted for the old cast-iron one. It should also be mentioned that Messrs. Hayward Tyler and Company's hand pump was fitted to one of the wells in the compound of the new Law Courts, Nagpur, and proved very useful.

74. The following papers were received during the year from other Provincial Departments :—

(1) Monograph on Silk Fabrics in the Hyderabad Assigned Districts.

(2) Madras Bulletin, No. 36, A Sugarcane Pest in Madras.

(3) Madras Bulletin, No. 37, "The Ground-nut: a Statistical Review of the Trade, &c."

(4) Bengal Bulletin, No. 5 of 1899, "Agave Sisalana."

(5) Monograph on the Woollen Fabrics of Bengal.

(6) Monograph on the Silk Industry of Bengal.

(7) Monograph on the Silk Industry of the Punjab.

(8) Agricultural No. 3, "Juar cultivation in Berar of the Hyderabad Assigned Districts."

(9) Assam Bulletin, No. 6, "Note on the Lac Industry of Assam."

(10) Monograph on the Silk Fabric industry of Madras.

(11) Madras Bulletin, No. 38, "The Ground-nut Crops growing near Panruti" in South Arcot.

(12) Monograph on the Silk Fabrics of the Bombay Presidency.

(13) Madras Bulletin, No. 39, "Report on the Sugarcane in South Arcot District."

(14) Bombay Bulletin, No. 20, "Cultivation of Betel-palm, Cardamom and Pepper in the Kanara District."

(15) Bombay Bulletin, No. 21, "Manual-power Tillage in Implements."

SECTION VIII.

FINAL (MISCELLANEOUS).

Fairs.

75. The usual statistics relating to the more important fairs were collected and published in the *Central Provinces Gazette.*

Extension of communications.

76. An addition of $31\frac{1}{8}$ miles was made to the railway system of the Province during the year by the construction of the first section (Raipur to Kurud) of the Raipur-Dhamtari Branch Railway. Road construction has added 787 miles of new roadway and 104 miles have been raised in class.

Museums, Arts and Sciences.

77. The number of museums in the Central Provinces remains the same, *viz.*, two, the Provincial Museum at Nagpur and the local one at Raipur.

At Nagpur the opening balance for the year was Rs. 4,083-10-8 and the closing balance Rs. 4,321-10-9, the Government donation alone being sufficient to cover the expenses of the year. The average daily number of visitors was 276, which is less than usual owing to the adverse conditions of the season. A number of coins and other exhibits were obtained during the year by gift or purchase, and six copper plates were purchased from one Jagan Gond through the Deputy Commissioner, Seoni, for Rs. 25.

Review of Registration Report.

78. The note on the working of the Registration Department during the year 1899-1900 was transmitted to the Secretariat with such remarks as appeared to be called for, but nothing in the report suggested any remarks in connection with the subject-matter of Resolution No. 4-216—9, dated the 29th April 1897, of the Government of India in the Revenue and Agriculture Department, touching the amalgamation of the two Departments.

L. S. CAREY,

Director of Land Records and Agriculture,

Central Provinces.

31*st March* 1901.

STATEMENT SHOWING THE PUNISHMENTS INFLICTED ON PATWARIS AND REVENUE INSPECTORS.

Punishments inflicted on Patwaris during

Nature of offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsinghpur.		Hoshangabad.		Nimar.	
		Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Non-residence.	Dismissed	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
	Fined	...	...	5	25 0 0	1	8 0 0	2	21 10 8	...	...	...	...	2	4 0 0	2	2 0 0
	Suspended	...	...	..	...	...	..	...	...	...	...	...	...	1	...	1	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	5	25 0 0	6	8 0 0	2	21 10 8	...	...	...	...	3	4 0 0	3	2 0 0
Misconduct ...	Dismissed	7	...	...	...	5	...	3	...	...	...	3	...	...	...	...	...
	Degraded	...	...	..	...	...	...	..	...	...	...	...	...	...	...	...	...
	Fined	13	32 4 9	5	22 0 0	13	260 0 0	...	...	..	...	5	21 0 9	...	...	1	3 0 0
	Suspended	...	...	...	...	5	...	..	...	...	...	...	...	2	...	2	...
	Transferred	1	...	...	...	3	...	6	...	...	...	...	...	...	...	...	...
	Total	21	32 4 9	5	22 0 0	26	260 0 0	9	...	...	...	8	21 0 9	2	...	3	3 0 0
Neglect of work (including inefficiency).	Dismissed	..	...	4	...	..	...	3	...	...	...	2	...	2	...	...	...
	Degraded	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
	Fined	16	50 5 8	30	101 8 0	20	110 5 4	51	336 2 3	21	96 0 0	9	40 0 0	7	14 0 0	5	7 0 0
	Suspended	7	...	...	...	2	...	1	...	4	...	4	...	5	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	23	50 5 8	34	101 8 0	22	110 5 4	55	336 2 3	26	96 0 0	15	40 0 0	14	14 0 0	5	7 0 0
Dishonesty ...	Dismissed	...	...	1	...	1	...	1	...	...	...	...	...	1	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	2	4 0 0	2	4 0 0	...	...	2	20 0 0	...	...	...	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	2	4 0 0	3	4 0 0	1	...	3	20 0 0	...	...	..	...	2	...	1	...
Pecuniary embarrassment.	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded	...	...	..	...	..	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	.	...	...	...	...	...	..	...	...	...	...	...
	Total	..	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
Physical inability to stand out-door work.	Dismissed	..	..	...	...	...	...	...	...	..	...	...	...	3	...	...	...
	Degraded	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...
Grand Total..	Dismissed	7	...	5	...	11	...	7	...	...	...	5	...	6	...	...	...
	Degraded	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
	Fined	31	86 10 5	42	152 8 0	34	378 5 4	55	377 12 11	21	96 0 0	14	61 0 9	9	18 0 0	8	12 0 0
	Suspended	7	...	...	...	7	...	1	...	4	...	4	...	9	...	4	..
	Transferred	1	...	...	...	3	...	6	...	...	...	...	...	...	...	...	...
	Total	46	86 10 5	47	152 8 0	55	378 5 4	69	377 12 11	26	96 0 0	23	61 0 9	24	18 0 0	12	12 0 0

the year ending the 30th September 1900.

Betul.		Chhind-wara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
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...	...	...	...	.	...	2	10 14 0	...	...	...	...	...	...	...	...	...	...	2	4 0 0
...	...	...	...	...	...	.	...	...	...	2	...	...	...	...	...	...	...		...
...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...		...
2	...	...	...	1	...	2	10 14 0	...	...	6	...	...	...	...	...	1	...	2	4 0 0
...	...	...	...	1	...	1	...	2	...	1	...	1	...	8	...	2	...	5	...
...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
4	38 8 0	1	10 0 0	16	62 10 6	...	...	...	...	...	...	5	26 10 0	27	120 13 4	...	...	24	60 0 0
1	...	...	...	1	...	...	...	6	...	5	...	1	...	4	...	...	...	7	...
...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
5	38 8 0	1	10 0 0	18	62 10 6	1	...	8	...	6	...	7	26 10 0	39	120 13 4	2	...	36	60 0 0
1	...	1	...	...	...	4	...	...	...	2	...	...	...	...	...	10	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	.	...
49	99 15 1	1	1 0 0	19	83 10 11	50	70 2 7	26	117 0 0	171	181 0 0	3	4 0 0	46	165 8 2	95	386 14 6	55	119 11 0
...	...	6	...	1	...	8	...	...	...	...	...	1	...	1	...	2	...	...	...
...	...	2	...	8	...	...	...	...	...	...	...		...	...	...	2	...	1	...
50	99 15 1	10	1 0 0	28	83 10 11	62	70 2 7	26	117 0 0	173	181 0 0	4	4 0 0	47	165 8 2	112	386 14 6	51	119 11 0
1	...	2	...	.	...	...	...	...	...	...	...	2	...	3	...	...	...	.	...
...	...	.	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...	...	...
7	27 3 9	...	...	...	...	3	15 4 0	...	...	...	...	.	...	9	66 5 4	...	...	4	10 0 0
6	...	.	...	..	...	.	...	...	...	...	...	...	...	4	...	...	.	...	...
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14	27 3 9	2	...	...	...	3	15 4 0	...	...	...	...	2	...	16	66 5 4	...	...	4	10 0 0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
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4	...	3	...	2	...	5	...	2	...	3	...	3	...	11	...	14	...	5	...
...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	4	...	...	...
60	165 10 10	2	11 0 0	35	146 5 5	55	96 4 7	26	117 0 0	171	181 0 0	8	30 10 0	82	352 10 10	95	386 14 6	80	193 11 0
7	...	6	...	2	...	8	...	6	...	7	...	2	...	9	...	2	...	7	...
...	...	2	...	8	...	...	...	...	...	4	...	...	...	...	...	2	...	1	...
71	165 10 10	13	11 0 0	47	146 5 5	68	96 4 7	34	117 0 0	185	181 0 0	13	30 10 0	102	352 10 10	117	386 14 6	93	193 11 0

c

Punishments inflicted on Revenue Inspectors

Nature of offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsinghpur.		Hoshangabad.		Nimar.	
		Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
			Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
Non-Residence.	Dismissed	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
	Degraded (a)	...	...	...	...	...	...	...	...	...	...	...	...	..	...	..	...
	Fined	..	...	.	...	...	...	...	...	...	...	..	...	...	...	...	...
	Suspended	...	...	...	...	..	...	.	...	...	...	...	...	...	...	...	...
	Transferred	...	...	.	...	.	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	..	...	...	...	...	...	...	...	...	..	...	...	...	...
Misconduct.	Dismissed	...	...	.	...	1	...	...	...	...	...	...	...	..	...	...	...
	Degraded (a)	...	...	...	...	...	...	1	...	...	...	..	...	...	...	..	...
	Fined	2	10 0 0	...	...	.	...	...	...	...	...	.	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
	Total	2	10 0 0	...	...	1	...	1	...	...	...	...	...	...	...	...	...
Neglect of work (including inefficiency).	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (a)	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	1	10 0 0	3	14 0 0	5	42 0 0	...	...	4	29 0 0	...	...
	Suspended	...	...	...	...	.	...	...	...	1	...	..	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	2	10 0 0	3	14 0 0	6	42 0 0	.	...	4	29 0 0	...	...
Dishonesty...	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
	Degraded (a)	..	...	...	...	...	...	...	...	..	...	..	...	...	...	...	...
	Fined	..	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
	Suspended	..	1 ...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
	Total	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pecuniary embarrassment.	Dismissed	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
	Degraded (a)	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended	..	...	..	...	...	...	...	...	...	...	..	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Physical inability to stand outdoor work.	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded (a)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.	...
	Suspended	..	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL.	Dismissed	...	...	...	...	1	...	..	...	...	...	...	...	...	...	...	...
	Degraded (a)	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...
	Fined	2	10 0 0	...	...	1	10 0 0	3	14 0 0	5	42 0 0	...	...	4	29 0 0	...	...
	Suspended	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	3	10 0 0	...	...	3	10 0 0	4	14 0 0	6	42 0 0	...	...	4	29 0 0	...	...

(a) Includes loss of field allowance.

the year ending the 30th September 1900.

Betul.		Chhindwara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

List of Agricultural Implements which have been tested in the Central Provinces during the year ending 30th September 1900.
Those which have met with marked success are shown in italics in Column 2.

No.	Name.	Use.	Special advantage.	Price.	Where procurable.	Name of person reporting.	Opinion.	Extent to which used by native agriculturists.	Remarks of Official Reporter.
1	2	3	4	5	6	7	8	9	10
				Rs. a. p.					
1	*Swedish Plough* ...	Ploughing and inverting the soil.	Efficiency in ploughing and inverting the soil especially in breaking up grass lands.	21 10 0	Ankerbunk's Red Shop and Company, O'sverums, Sweden.	Director of Land Records and Agriculture, Central Provinces.	See Column 10.	Some have been procured from Madras by landholders in Hoshangabad District.	Has continued to do very good work on the Nagpur Farm.
2	*Mayfurth's Hand-thresher.*	Threshing any crop ...	Cheapness and rapidity in threshing wheat.	127 6 0	Mayfurth and Company of Frankfort on Maine, Germany.	Do. ...	Do. ...	One was purchased for use in the Hoshangabad District, but the non-crushing of the straw is considered by the people a great defect.	Do.
3	*Iron Roller Sugar Mill.* (1) Three Rollers. (2) Two Rollers.	Extracting juice from sugarcane.	Efficiency in the extraction of cane juice and improvement in quality of syrup.	128 0 0 50 0 0	Messrs. Thomson and Company, Behia.	Do. ...	Do. ...	Established in one district (Betul) and coming into use in another (Chanda).	Do.
4	*Steel Roller Mill* (Rogers).		Do. do. ...	95 0 0	A. Rogers, Esq., Muzaffarpur, Tirhoot, Bengal.	Do. ...	Do. ...	One purchased by a landlord of the Bhandara District, and much appreciated.	Do.
5	*Dell's Winnower* ...	Winnowing grain ...	Winnowing and cleaning threshed grain.	265 0 0	Messrs. Dell and Company, Mark Lane, London.	Do. ...	Do. ...	Used by grain export agents, but not by cultivators.	Do.
6	*Walter A. Wood's Sultry Mowar and Rake.*	Reaping grass ...	Rapidity in hay-making.	487 10 2	Messrs. Mackbeth and Company, Bombay.	Do. ...	Do. ...	*Nil.*	Worked very satisfactorily on grass lands at Pachmarhi, but on the Telinkheri reserve the soil is too stony for the class of machine.
7	*Macarthy Hand Cotton Gin.*	Ginning cotton ...	Rapidity in ginning and saving of labour.	220 0 0	Messrs. N. D. Maxwell and Company, Bombay.	Do. ...	Do. ...	.....	Works very satisfactorily.

List of Agricultural Implements which have been tested in the Central Provinces during the year ending 30th September 1900.
Those which have met with marked success are shown in italics in Column 2.—(Concld.)

No.	Name.	Use.	Special advantage.	Price.	Where procurable.	Name of person reporting.	Opinion.	Extent to which used by native agriculturists.	Remarks of Official Reporter.
1	2	3	4	5	6	7	8	9	10
				Rs. a. p.					
8	*Hay Press* ...	Pressing grass ...	Preserves the aroma of grass and facilitates its storage.	516 12 9	Obtained from the Managing Director of Tramway Company, Bombay.	Director of Land Records and Agriculture, Central Provinces.	See Column 10.	.....	It works very satisfactorily and the quality and aroma of the grass pressed remains intact during the whole time that the grass remains compressed in bales.
9	Martin's Plough ...	.....	.....	7 0 0	Mr. T. Martin, Agra...	Do. ...	Do. ..	.....	This is too delicate an implement for our black soil.
10	Kolar Mission Drag Harrow.	.....	.....	28 0 0	Superintendent, Kolar Mission, Kolar.	Do. ...	Do. ...	.....	This is too light to be of much service.
11	Meston Plough ..	.....	.....	6 14 6	Director of Land Records and Agriculture. Northern-Western Provinces and Oudh.	Do. ...	Do.	.....	This is too light for use on our heavy black soil.
12	*Cook's Heavey Beam Plough.*	.....	.....	38 8 0	Mr. Dunlop, Akola ...	...	Do. ..	.....	Proved to be of exceptional service in breaking up the new stiff soil at Telinkheri Farm.
13	*Hand Force Pump* ...	.....	.....	130 0 0	Messrs. Hayward and Tyler. Upper White Cross Street, London, E. C.	Director of Land Records and Agriculture. Central Provinces.	Do. ..	.....	This is a useful pump for drawing water from wells for drinking and household purposes and can be easily worked by one person after the pump is fixed the well could be covered up so as to prevent its pollution. (Tried on the Farm, 1899-1900.)
14	*Corn Shredder* ...	.....	Rapidity in cutting juar stalks (*Karbi*) into small atoms, the whole of which cattle are able to consume.	214 14 0	Mr. G. D. Harder, Empire Agricultural Works, Cobleskill, New York.	Do. ..	Do. ...	Mendibag Boharies have ordered one.	A very useful implement for cutting juar stalks into quarter inch bits which cattle eat with great ease. It effects a great saving in fodder as nothing is wasted. It cuts very fast and is easy to work. A man working at the machine for half a day can produce chopped food for 30 head of cattle. It is also a very good machine for cutting maize stems into bits; which may then be buried in the ground. A very sweet silage is prepared out of material that would otherwise be wasted.

Secretariat Press, Nagpur:—A. H. R., 20-4-1901—627.

REPORT

ON THE OPERATIONS OF THE

DEPARTMENT OF LAND RECORDS & AGRICULTURE,

CENTRAL PROVINCES,

FOR THE YEAR ENDING THE 30TH SEPTEMBER 1901.

Agents for the sale of Books published by the Central Provinces Administration.

IN ENGLAND.

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REPORT

ON THE

DEPARTMENT OF LAND RECORDS AND AGRICULTURE, CENTRAL PROVINCES,

FOR THE YEAR ENDING THE 30TH SEPTEMBER 1901.

FROM

F. G. SLY, ESQ., I. C. S.,

DIRECTOR OF LAND RECORDS AND AGRICULTURE,

Central Provinces,

To

THE SECOND SECRETARY TO THE CHIEF COMMISSIONER,

REVENUE DEPARTMENT,

Central Provinces.

Nagpur, the 10th April 1902.

I have the honour to submit the annual report on the working of the Department of Land Records and Agriculture for the year ending the 30th September 1901.

The necessary extracts from their Revenue Administration Reports have been furnished punctually by all Deputy Commissioners except those of Chanda and Bhandara. The extracts which I received from the last-mentioned district treated of only two subjects, namely, (1) changes in and efficiency of the Land Record Staff and (2) inspection of village records. Extracts from the reports of the Divisional Commissioners of Jubbulpore, Nagpur and Chhattisgarh were received between the 19th and 21st February, while those appertaining to the report of the Commissioner, Nerbudda Division, were received on the 3rd of March.

SECTION I.

PREFATORY.

2. The office of the Director of the Department of Land Records and Agriculture was held by Mr. L. S. Carey, I. C. S., during the first half of the year and by myself during the second half of the year. The post of Assistant to the Director was held by Mr. Param-Anand Tiwari, except for three weeks in January 1901, when he was absent on privilege leave.

Tour of Director.

3. During his cold-weather tour, Mr. Carey inspected abatement operations which were in progress in Hoshangabad and conferred with the Deputy Commissioner, Narsinghpur, in regard to revenue matters in that district. He attended the conference which the Hon'ble the Chief Commissioner held at Kareli regarding the revision of settlement in

Hoshangabad, and subsequently he inspected settlement field work in Chanda, Raipur and Bilaspur. During the rains I inspected the offices in Raipur, Bilaspur, Sambalpur, Chanda, Nimar and Hoshangabad.

4. My assistant, Mr. Param-Anand Tiwari, made an extensive tour for the inspection of Land Record work in the Wardha, Bhandara, Damoh, Saugor, Narsinghpur, Betul and Chhindwara Districts. Early in January he was entrusted with the announcement of the revised takolis of the zamindaris in the Sakoli and Tirora Tahsils of the Bhandara District. During the rains he inspected all Kanungos' offices on the line of railway.

SECTION II.

LAND RECORD ESTABLISHMENT.

Promotion to other Departments.

5. No less than nine Superintendents of Land Records are on deputation to the Settlement Department, of whom one has been given an Extra-Assistant Commissionership and two Tahsildarships. Two others are on foreign service with a Feudatory State and the Court of Wards respectively. One Assistant Superintendent of Land Records has been appointed a Tahsildar. During the year 10 Revenue Inspectors have been appointed Naib-Tahsildars in permanent or officiating capacities. Two have reverted, of whom one has been re-appointed since the close of the year. One Revenue Inspector has been appointed as Manager, Court of Wards, Chhindwara, and three have been deputed on foreign service in the Nandgaon State. Most of these appointments have been made in the Jubbulpore and Nerbudda Divisions, and the claims of the Land Record Staff might receive more liberal recognition in the two remaining Divisions. A printed list of Revenue Inspectors who have qualified for Naib-Tahsildarships is sent annually to each Divisional Commissioner.

Revision of Land Record Establishment. Nimar.

6. The scheme for the revision of the Land Record arrangements of the Nimar District was submitted for the orders of the Hon'ble the Chief Commissioner last September and was sanctioned in February 1902. The chief feature in the revised arrangements is the amalgamation of malguzari and ryotwari villages in a single patwari circle, which has resulted in much greater compactness of the circles. The existence of villages in which patwaris have a *watandari* right necessarily prevented many changes which would otherwise be desirable, for it is difficult to disturb these rights without the consent of the holder. In many cases exchanges have with consent been made of *watandari* villages to non-*watandari* circles and *vice versa*. The effect of the re-arrangement has been to reduce the number of circles from 268 to 237, in spite of the formation of 10 new circles in the ryotwari tracts. There is no doubt that the staff is still larger than is necessary, and the Deputy Commissioner should always consider the possibility of amalgamating any vacant circle before he appoints another incumbent. The staff of Revenue Inspectors for the district has been raised from 9 to 10, which includes the one Revenue Inspector separately sanctioned by the Hon'ble the Chief Commissioner and hitherto paid from Provincial Funds.

Betul.

7. The revised halkabandi in Betul was brought into force in August 1900. It provided for the creation of 20 new circles, the abolition of 3 circles, and the absorption of 11 patch-cultivation circles, giving a *net* increase of 6 circles. This revision has created some discontent amongst the old patwaris, whose emoluments have been reduced, so that their work will require careful supervision. The number of Revenue Inspectors was raised from 6 to 7.

Saugor.

8. The scheme for the revision of the patwari halkabandi in Saugor, which had been in abeyance for some years, was submitted and received the sanction of the Hon'ble the Chief Commissioner during the year. The effect of the revision has been a reduction in the

number of patwari circles from 420 to 387 and an increase in the number of Revenue Inspectors from 12 to 13. A further reduction in the number of patwaris' circles seemed feasible, but consideration had to be given to the fact that much of the land which at present has gone out of cultivation in Saugor will again be cultivated with the return of prosperity, whilst the claims of the existing staff had also to be dealt with leniently. The Deputy Commissioner, Saugor, will submit a revised and supplementary halkabandi showing the receipts of the fund and the deficit to be met from the general savings of the Patwari Fund as soon as the full rents and revenue as fixed at settlement become payable and the patwaris begin to realise their full dues.

Raipur and Bilaspur.

9. The orders of the Government of India sanctioning the temporary abandonment of settlement operations in Bilaspur and the greater portion of the Raipur District will necessitate the postponement of the submission to the Local Administration of the preliminary proposals for the revision of the patwari halkabandi in the Bilaspur District. But the Government of India have directed that steps should be taken to improve the Land Record work in these districts. The only feasible way to secure this desirable end is to increase the pay of the patwari staff and to increase the number of supervising officers. A rough draft scheme has been prepared by me and the matter will be taken up in consultation with the Commissioner of the Chattisgarh Division and a special report submitted to the Secretariat as desired in Chief Secretary's letter No. 5029, dated the 7th October 1901.

Damoh.

10. During the year the sanction of the Hon'ble the Chief Commissioner was received to the raising by Rs. 1,834 per annum of the contribution paid from the Treasury to the patwaris of the Damoh District. The necessity for these increased payments arose from a reduction in the ryoti cess caused by the abatement of rents and revenue in the district. The sanction holds good for a period of three years, after which the revised cash allowance will be liable to revision.

11. It has, in my opinion, been too much the practice in the past to confine all revision of the patwari arrangements to the Settlement Department. It is true that a general revision can most conveniently be made when a district is re-settled, but suitable opportunities for small revisions occur at other times. In several districts the staff is in excess of real requirements, because it is impossible for the Settlement Officer to make the wholesale reductions desirable without causing hardship to the staff then employed. Convenient opportunities for further reductions occur when circles become vacant by deaths, dismissals, &c., from year to year, and in such cases the Deputy Commissioner should, in my opinion, be required to consider the possibility of abolishing the vacant circle before he appoints a new patwari to it.

Working of the Land Record Staff.

Residence of patwaris within their Circles. (Statement I of the Agricultural Series.

12. The necessity for compelling patwaris to reside within their circles continues to receive attention. The number of patwaris non-resident with permission has decreased from 228 to 220, but the number non-resident without permission has increased from 544 to 571. With the re-arrangement of patwari circles in so many districts, it is to be expected that non-residence should show some increase. My predecessor pointed out in last year's report that the districts in which the matter of compelling patwaris to take up their residence required most attention were Saugor, Seoni, Betul, Nimar and Sambalpur. In Saugor the revision of the halkabandi has rather obscured the statistics under this head, but the Deputy Commissioner states that he is making further enquiries. In Seoni the percentage of non-resident patwaris has fallen from 20 to 16. The Deputy Commissioner, Betul, reports that a large number of probationers have been entertained in the revised halkabandi, and that the majority of non-residents are from among these. The Deputy Commissioner adds, however, that there are a good many permanent men who obstinately refuse to comply with orders, and I agree with his opinion that it will, for the sake of discipline, be necessary to dismiss a few of these as an example to the probationers.

In the Nimar District the revised halkabandi was announced at the close of the year under report, and no great attempt was made to force the patwaris to reside in their circles. The number of non-resident patwaris without leave in Bhandara and Nagpur is inexcusably large. In Wardha and Balaghat residence is better enforced. With so many changes constantly occurring in the Chhattisgarh Districts, it is inevitable that the number of non-resident patwaris should be large; but in Sambalpur the number has increased owing to dismissals, desertions, &c., and owing to the employment of patwaris on map-correction work. Under these circumstances it was not possible for the Deputy Commissioner to take any severe action to compel patwaris to take up their permanent residence within their circles. There seems no good reason why the number of patwaris permitted to reside outside their circles should continue so large in the districts of Jubbulpore and Narsinghpur; where there is any change in the incumbents of these circles, residence should be enforced.

Training of patwaris.

13. The training of patwaris had been somewhat neglected in the previous year owing to the famine, so that a special effort was made during the year under report. Classes for the instruction of patwaris and candidates were opened at the head-quarters of Revenue Inspectors' circles in all districts, save Seoni and Bilaspur. Owing to the special kharif girdawari and census operations no special training class was opened at Seoni. Six of the eight patwaris, however, who attended the Survey class which was opened in Seoni, are reported to have passed out. Only a few Deputy Commissioners have furnished details of the number of patwaris who attended the classes opened for them. The number who are reported to have passed out are:—Saugor 42, Damoh 28, Mandla (one tahsil only) 49, Narsinghpur 76, Chhindwara 61 in survey, a smaller number passing in other subjects, Betul 35, and Raipur 120. The number of patwaris who underwent a training are Nimar 25, Wardha 41, Chanda 47, Balaghat 56 and Sambalpur 52. It is satisfactory to find that so many men have been trained in Raipur, where it is difficult to obtain trained candidates to replace inefficient patwaris. The Commissioner, Chhattisgarh Division, rightly places great importance upon the necessity for regular classes in Chhattisgarh.

The Deputy Commissioner, Saugor, remarks that the examination standard appears to have been fixed very diversely, and that a good many more patwaris than the number given in his report would profit considerably by a well-conducted course. The standard for passing in survey is that the patwari should be able to survey accurately, at a rate of 10 acres a day, land with fields of fair average size with no errors exceeding 15 links and with few errors exceeding 10 links (this office Circular letter No. 2737, dated the 1st July 1898). Under Rule XXII of the Patwari Rules, the Director of Land Records and Agriculture is entrusted, with the duty of prescribing from time to time the subjects for examination. The subjects so prescribed are:—

(1) Plotting to scale.

(2) Field survey by plane-table.

(3) Area calculation by comb.

(4) Inking of maps, drawing of traces and of conventional signs.

(5) Khasra writing.

(6) Preparation of jamabandis, compilations and other land records.

(7) Patwaris' Rules.

The Deputy Commissioner, Chhindwara, reports that it has been the practice in his district in the past to confirm patwaris in their posts before they passed the required examination. This is contrary to Rule V of the Central Provinces Patwari Rules, which lays down that no person shall be allowed to perform the work of a patwari who has failed to pass the required examination, at which he is allowed two trials under Rule XVI.

The Deputy Commissioner, Nagpur, points out the inconvenience felt when a training class has to be opened by a Revenue Inspector of a Tahsil Head-quarters circle who has as his head-quarters a small village, and he expresses his inability to see the force of the objection to a Revenue Inspector having his head-quarters in the tahsil town. But I entirely agree with the present policy that it is inexpedient to fix the residence of a Revenue Inspector in a tahsil town, because under such a system he tends to degenerate into a mere tahsil drudge.

Condition of Village Maps and Boundary Marks.

Map-correction.

14. The regular correction of maps prior to revision of assessment was in progress in the Raipur, Bilaspur and Sambalpur Districts under the supervision of trained officers of the Survey of India Department. A re-survey of the ryotwari tracts of the Nimar, Hoshangabad, Chhindwara and Betul Districts was also in progress. Survey work was also started in the Chhindwara Jagirs. In the remaining districts annual map-correction was carried on by the Land Record Staff. Patwaris were, as usual, required to renew their trace maps which were defaced by corrections. The number of traces which were replaced during the year are shown below:—

Damoh	... 418	Betul	... 645
Jubbulpore	... 461	Chhindwara	... 962
Seoni	... 20	Wardha	... 1,162
Mandla	... 25	Nagpur	... 656
Hoshangabad	... 107	Balaghat	... 59

Much attention has thus been given to this important work in some districts, but much still remains to be done. This work is usually done during the rains, patwaris being summoned into the head-quarters for this purpose. Every occasion for taking a patwari outside his circle is a matter for regret, particularly when his absence extends over any lengthened period; but map-tracing is a duty which must be performed under constant supervision, so that it seems inevitable. In some districts it may be found possible to carry out the work at each Revenue Inspector's head-quarters, the final passing being done by the Superintendent, Land Records, during a short visit to the circle. In Seoni nothing was done towards the correction of the internal plots of rice fields; the press of census work does not seem an adequate explanation of the entire neglect of this duty. The Deputy Commissioner should insist that proper attention is given to it during the current year.

15. A correct map is the basis of all correct land record work, and yet this is the duty which is more generally neglected than any other. Special attention was paid to it by my Assistant during his tours, and it is to be hoped that his inspections will result in more attention to this important duty. Where the cause of neglect of this duty is laziness or inability to survey on the part of the patwari, the remedies are clear—closer supervision, stricter discipline and training classes. But changes cannot be correctly brought on the map unless the trace is in such a condition that they can be clearly shown. It was found that the patwaris' traces soon become illegible and useless for map-correction work, so that constant renewals are required to be made every few years. When this is the result of constant changes in the boundaries of fields there is no help for it, but enquiry showed that it is more the result of careless handling of the traces, a bad quality of tracing cloth which easily tears and becomes mottled, and bad ink which easily fades and smudges. Special investigations were, therefore, made to find out the best means of remedying these avoidable defects. The result of these enquiries has been to select for tracing purposes:—

(*a*) An ink named "Pearl liquid water-proof ink" which possesses all the permanency of Indian ink and yet does not smudge even when wetted and rubbed.

(*b*) Tracing cloth of the quality known as the "Reliance brand."

To remedy the damage to the traces by continuous folding and unfolding, orders have issued that—

(1) No trace sheet shall be made of larger size than a map sheet, the traces of larger villages being made in two or more sheets.

(2) The patwari shall not be allowed to fold the trace, but shall use it placed flat upon his plane-table.

(3) A wooden roller and tin-cylinder shall be maintained by each patwari for keeping his trace sheets.

These instructions, which issued in Land Record Circular No. 37, dated the 17th September 1901, apply only to traces to be prepared in future.

Village boundary-marks.

16. Village boundary-marks are generally reported to be in good order. In Hoshangabad the marks are stated to be in an extraordinarily bad condition, neither malguzars nor tenants recognizing their obligation to keep up boundary-marks adjoining their own fields. In Seoni 24 cases of boundary-marks having been removed or damaged were reported, but the culprits could not be found and the marks had to be renewed. Inspection has shown that in several districts Tahsildars do not make proper use of the certificates furnished by patwaris of the condition of boundary-marks. These certificates are in several tahsils filed with the other village records as a matter of course without any action being taken to remedy the defects in boundary marks pointed out in them.

Permanent marks for traverse stations.

17. The condition of marks for traverse stations is reported to be fairly good, annual repairs being made by the cultivators; but it requires constant effort to keep the malguzars and tenants up to the mark. In Chanda, patwaris, it is stated, have not given so much attention as they should to the preservation of these stations.

Boundaries of survey numbers in ryotwari villages.

18. Special attention was paid to boundary-marks in ryotwari villages in Damoh. In unoccupied numbers 1,663 marks were repaired at a cost of Rs. 118. No less than 1,538 marks on occupied fields were repaired during the year by the ryots. The instructions framed by the Commissioner, Jubbulpore Division, in connection with the restoration of missing marks and the proper maintenance of field boundary-marks in ryotwari villages of the Mandla district were issued by the Deputy Commissioner, Nimar, to the Revenue Inspectors in his district.

Degree of punctuality observed in filing Village Papers.

19. The extent to which punctuality was observed in filing village papers is exhibited in Statement J of the agricultural series. In the districts of Nimar, Wardha, Nagpur and Raipur, all the papers were punctually submitted. A few jamabandis were a month late in Damoh, Jubbulpore, Hoshangabad and Mandla, and a few jinswars also in the two last-mentioned districts. The milan-khasras were filed by the date fixed in all districts except Saugor, Chanda and Sambalpur. There is no good reason for unpunctuality in the case of Saugor. In Chanda and Sambalpur the staff was hampered by settlement and map-correction operations. There was more unpunctuality in connection with the submission of *jinswars* than last year, while the submission of *jamabandis* shows a slight improvement.

Testing of Village Papers.

Statement H of the Agricultural Series.
By Revenue Inspectors.

20. The percentage of khasra entries checked by Revenue Inspectors in districts in which there were no settlement operations is shown below:—

Saugor	14	Nimar	18
Damoh	9	Betul	9
Jubbulpore	9	Chhindwara	10
Mandla	10	Wardha	24
Seoni	12	Nagpur	14
Narsinghpur	11	Bhandara	7
Hoshangabad	10	Balaghat	15

This shows a falling-off in the inspection of land records for which census work is mainly responsible. An improvement over the previous year's figures is shown in the districts of Mandla, Seoni, Nimar and Balaghat only. The percentage of incorrect entries in Chhindwara and Betul is unusually high, for which there seems no good explanation.

By Superintendents and Assistant Superintendents of Land Records.

21. There is a falling-off in the number of villages checked by Superintendents of Land Records and their Assistants, but the number of khasra entries tested shows a slight increase. In many districts Superintendents were detained at head-quarters during the open season for the preparation of remission statements. The work of checking has been greatly neglected by the Superintendents, Messrs. Narayan S. Paranjpe and Shridhar Lachman, and their Assistants in Nagpur and Bhandara, where work in other respects has not been altogether satisfactory. The amount of check by Superintendents Messrs. Afzul Hassan and Sheocharan Lal was also inadequate in Mandla and Nimar. Mr. Bapu Gulab Singh shows the best record in the difficult country of the Betul district.

By Tahsildars.

22. The number of villages in which records were inspected by Tahsildars is rather larger than in the previous year, but there is a great falling-off in the inspections by Tahsildars in the districts (except Damoh) of the Jubbulpore Division. In Saugor 66 villages were inspected against 476 in the previous year, Jubbulpore 22 against 144, Mandla 80 against 165, and Seoni 46 against 132. The Tahsildar of Chhindwara made no inspections at all, which, the Deputy Commissioner points out, is very discreditable to him. On account of census operations the Deputy Commissioner permitted the Tahsildar to postpone inspections of village records during February, but the Tahsildar neglected to do any checking in December and part of January. The amount of inspections done by the Tahsildars of Hoshangabad and Nimar shows a great improvement. Some improvement is also noticeable in the amount of testing work done by the Tahsildars of districts of the Nagpur Division. But taken as a whole, the Tahsildars grossly neglect their duties in the check of land records. They tested the records in less than $1\frac{1}{2}$ villages in every 100, and the average comes to less than 100 khasra entries checked by them in each tahsil. Under such circumstances it is impossible for Tahsildars to have any real knowledge of the state of the land record work and staff in their tahsils. I would suggest that the Deputy Commissioner should prescribe for each tahsil the number of villages and number of khasra entries to be checked annually by the Tahsildar, and that the Tahsildar should be required to attach to his monthly diary an abstract statement showing this standard and the amount of checking done up to date.

By District Officers and their Assistants.

23. The Deputy Commissioners who did the largest amount of testing are the Deputy Commissioners of Narsinghpur (Mr. de Brett 297 entries in 42 villages, Mr. Mahdi Hasan 449 entries in 71 villages) and Wardha (Mr. S. M. Chitnavis 1,527 entries in 109 villages). A small amount of testing has been done by the Deputy Commissioners and their Assistants in Saugor, Bhandara and Balaghat, but in other districts it is insignificant.

In Nagpur only six entries in one village were tested, whilst not a single entry was tested in Seoni and Betul. It may be as reported by the Deputy Commissioner, Jubbulpore, that some officers do not keep a record of the entries they check, and that the return is therefore not complete; but there can be no doubt of the main fact that the amount of testing by Deputy Commissioners and their Assistants is quite insignificant. Without some testing it is impossible for a Deputy Commissioner to be in close touch with his land record staff, so that he has to rely almost entirely upon the reports of his Superintendent of Land Records, which is not satisfactory. It is the more remarkable that Deputy Commissioners do not insist upon their Assistants performing their duties in this matter. The number of khasra entries tested by each executive assistant works out to only 63, so that on an average not more than one morning in the year has been devoted to testing land records. This almost complete neglect of

land record testing by the district staff cannot but have a most detrimental effect, and I trust that the Administration will take some steps to improve matters in this respect.

Checking of jamabandis by kanungos.

24. The amount of checking by kanungos shows a decrease, but this is in part due to the fact that settlement and map-correction operations were in progress in several districts. In some districts also jamabandis were filed so late as not to leave time for adequate checking. The number of errors brought to light has risen.

25. Considering the conditions under which the land record work of the year was performed, the results are not unsatisfactory. At the time when field work ought to have started, many members of the staff were employed in winding up famine work and in settling accounts. Then the census made most serious inroads upon their time, all the staff being employed upon this duty. Again, much extra work was thrown upon them in the preparation of information required for the suspensions and remissions of Government dues. Abatement and conciliation proceedings were also in progress in several districts. In some districts these interruptions were so serious that the preparation of land records was hardly commenced till the middle of March. During the past few years land record work has so often been subordinated to other duties resulting from famine, &c., that the sense of responsibility for accurate land record work has been somewhat weakened. This branch of the Administration will, therefore, require special attention for some few years, until its importance is again recognised.

Conduct and discipline of Land Record Staff.

26. The work of the Superintendents and Assistant Superintendents of Land Records has, with a few exceptions, been satisfactory. An acting Superintendent of Land Records was reverted to the post of Assistant Superintendent of Land Records for serious misconduct. It has been brought to notice that the land record work in the Bhandara district requires supervision by a stronger man than the present incumbent of the post, and proposals have been submitted for his transfer. The Superintendent of Land Records, Chhindwara, is described as very dilatory. On the other hand it is satisfactory to find that many Deputy Commissioners speak in very high terms of the work of their Superintendents.

Appendix II.

27. Compared with the punishment roll of the preceding year the number of Revenue Inspectors punished shows a very large decrease, from 141 to 56, the decrease being most apparent in the Nagpur Division. The punishments are contrasted below:—

Description of punishment.	NUMBER OF PUNISHMENTS.									
	JUBBULPORE.		NERBUDDA.		NAGPUR.		CHHATTISGARH.		TOTAL.	
	1900.	1901.	1900.	1901.	1900.	1901.	1900.	1901.	1900.	1901.
Dismissals	1	1	*Nil.*	1	*Nil.*	*Nil.*	*Nil.*	2	1	4
Reductions	2	1	*Nil.*	2	2	2	1	*Nil.*	5	5
Fines	11	9	13	7	75	12	30	7	129	34
Suspensions	2	*Nil.*	*Nil.*	1	3	3	*Nil.*	1	5	7
Transfers	*Nil.*	2	*Nil.*	1	1	*Nil.*	*Nil.*	3	1	6
Total ...	16	13	13	12	81	17	31	13	141	56

The punishment roll of Revenue Inspectors was highest in Nagpur and Sambalpur, where there were seven cases of punishments in each district. The long punishment roll in Sambalpur may be partly due to want of administrative capacity and tact on the part of the officer in immediate charge of the staff.

It is noticeable that no punishments were inflicted in Seoni, Nimar and Balaghat. The aggregate fines inflicted amounted to Rs. 312 compared with Rs. 690-7-3 in the preceding year. The faults of Revenue Inspectors have been leniently dealt with owing to the extra burden of work thrown upon them during the year, but this lenient policy has been stretched to its utmost limit in most districts, so that a tightening of the reins of discipline is desirable.

Appendix I.

28. The list of punishments inflicted on patwaris shows an increase when compared with the roll of 1899-1900 as is indicated in the statement below :—

	1899.	1900.
Dismissals	93	179
Reductions	5	36
Fines	828	852
Suspensions	92	108
Transfers	27	49
Total ...	1,045	1,224

This increase is mostly due to punishments inflicted in connection with Census work, in which no fault could be overlooked without danger to the success of the operations. The increase is noticeable in the three divisions of Jubbulpore, Nerbudda and Chhattisgarh. Of the 179 dismissals, 41 were for non-residence, 40 for misconduct, 82 for neglect of duty, 37 for dishonesty, 1 for pecuniary embarrasment and 15 for physical inability. The punishment roll of patwaris is highest in the Chhattisgarh Division. In Raipur there were 141, in Bilaspur 182, and in Sambalpur 164 cases of punishments. Many of these punishments were inflicted for absence without leave, and the Divisional Commissioner points out the importance of improving the procedure so that a patwari may obtain leave without undue delay. This matter has been taken up by the Settlement Officer. The districts in which the smallest punishments were inflicted are Chhindwara, Nimar and Narsinghpur. Several fines were inflicted for bad Census work. The Deputy Commissioner, Betul, writes: "The old "parwaris are somewhat discontented at the revised halkabandi, and it will be "for the Deputy Commissioner to exercise a good deal of tact and to make "himself personally acquainted with them while on tour in order to smooth down "their ruffled feelings. There is, I fear, a growing feeling among them that "they are now ordinary Government servants, and as such have less chances of "promotion and advancement than those in other branches of service; but the "appointment of Revenue Inspectors to Naib-Tahsildarships will do much to "improve their prospects, especially if academic qualifications are not held to be "indispensible."

Rewards aggregating Rs. 1,648 were granted to patwaris for good work in the districts of Saugor, Damoh, Hoshangabad, Betul, Wardha and Bilaspur. The bankrupt condition of the Patwari Fund prevented the grant of rewards on a more liberal scale.

Sanads for Improvement.

29. The issue of sanads for agricultural improvements effected by landlords and tenants is generally dealt with under this section.

The return for the year is—

Saugor	12	Chhindwara	*Nil*
Damoh	10	Wardha	109
Jubbulpore	28	Nagpur	16
Mandla	21	Chanda	5
Seoni	*Nil*	Bhandara	2
Narsinghpur	8	Balaghat	113
Hoshangabad	2	Raipur	2
Nimar	110	Bilaspur	1
Betul	39	Sambalpur	30
		Total ...	508

Last year 601 sanads were granted. In several districts the standing orders contained in Revenue Book Circular I—13 requiring the Land Record Staff to initiate proceedings for the grant of sanads have been neglected. The Deputy Commissioner, Hoshangabad, reports that a sanad was granted to a malguzar for planting an avenue of trees.

SECTION III.

UTILIZATION OF LAND RECORDS.

CIRCLE NOTE-BOOKS.

30. Circle Note-books are reported to have been written up in Damoh, Jubbulpore, Seoni, Betul and Balaghat. I am unable to understand the report from Jubbulpore, for the inspection made by my Assistant in February 1902 shows that nothing has as yet been done in Jubbulpore, and that entries are very heavily in arrears. In Saugor the books have been brought up to the close of last year and will shortly be made complete for this year. In Narsinghpur all the books have with one exception been completed. In Hoshangabad and Chhindwara rent collections have to be entered up. The Deputy Commissioner, Saugor, reports that the value of Circle Note-books has been somewhat diminished by the undue importance which is said to be paid to the second decimal figure and to annas and pies which the Deputy Commissioner considers should find no place in the note-books. This practice was stopped by my predecessor in the case of village note-books (Circular letter No. 1450—66, dated the 10th April 1901) and similar instructions will now be issued regarding Circle Note-books. The necessity for making in the Circle Note-book a line of entries for every village in the district throws very heavy work upon the Superintendent of Land Records, which in some cases it is difficult for him to perform. He is often obliged to get unauthorized help from Revenue Inspectors to complete this duty. I am inclined to doubt the necessity for making entries in Circle Note-books for so small a unit as a village. The books would be equally, if not more, useful if entries were made for patwaris' circles only.

VILLAGE NOTE-BOOKS.

31. Under the orders contained in Revenue Book Circular III—4, these books have to be filled up by Revenue Inspectors and by Head Constables on beat duty in the village itself. The Deputy Commissioners of Saugor, Hoshangabad, Wardha, Bhandara, Raipur and Bilaspur are silent on this subject. In the districts of Nimar, Nagpur and Balaghat, the books have been completely written up in accordance with the new orders. In Jubbulpore all the Revenue Inspectors with one exception have written up the books for all villages in their charge. In Seoni the Revenue Inspectors have, contrary to standing orders, delegated this work to their patwaris. I have addressed the Deputy Commissioner on the subject. In Betul also the Revenue Inspectors appear to have done the same, but the Deputy Commissioner has taken action. In Damoh all the books are reported to have been written up, but whether by the proper agency or not is not stated. The Deputy Commissioner, Mandla, had not time to judge of the effect of the new orders on the preparation and accuracy of the books. In Chhindwara the books are now being written up by Revenue Inspectors, and their early completion is hoped for. The Deputy Commissioner, Narsinghpur, reports that the new orders have been communicated to the officers concerned, but is unable to state how far the instructions have been carried out, and promises to do so during his tour this year.

FAMINE NOTE-BOOKS.

32. With the close of the second famine of 1899-1900, these books have become quite out of date, and in accordance with the orders of the Honourable the Chief Commissioner, a special enquiry is now in progress for the preparation of lists of suitable village works. When this enquiry is completed, the Famine Note-book will again become a useful record.

SECTION IV.

SCIENTIFIC AND NATIONAL ENQUIRY UNDER IMPERIAL CONTROL.

33. The Provincial Land Record Department in the Central Provinces is called upon from time to time to co-operate with the following Imperial Departments :—

(1) The Survey Department.

(2) The Meteorological Department.

(3) The Department under the Reporter on Economic Products.

(4) The Department of Agricultural Chemistry.

(5) The Civil Veterinary Department.

(6) The Statistical Department.

Co-operation with the Survey Department.

34. No original survey work was carried out during the year under report, but in Sambalpur, Raipur and Bilaspur map correction, preparatory to re-assessment was recommenced.

During the field season 1900-01, the Officer-in-charge of the party deputed by the Imperial Survey Department to undertake traverse surveys of these Provinces surveyed an area of 867 square miles situated in the Chhindwara, Nimar, Hoshangabad and Raipur Districts.

Co-operation with the Meteorological Department.

35. The rainfall statistics of the Province were compiled as usual in this office and transmitted to the Meteorological Reporter to the Government of India. The efficiency of rainfall registration during the year 1900-01 was separately reported upon in this office letter No. 2199—107, dated the 15th June 1901.

Hail-storms.

36. The reports of hail-storms which occur in any part of the Province are obtained as they occur and sent with skeleton maps to illustrate the course of each storm and its approximate breadth to the Meteorological Reporter to the Government of India. During the year reports on the following storms were submitted :—

Bhandara	... 7th February 1901.	Hoshangabad	... 4th March 1901.
Seoni	... 17th January 1901. 7th February 1901.	Wardha	... 8th February 1901.
Nagpur	... 4th March 1901.	Nagpur	... 3rd and 4th April 1901.
Mandla	... February to May 1901.	Betul	... 4th March 1901.
		Bilaspur	... March 1901.

Action taken on requisitions from the Reporter on Economic Products.

37. Collection of gums with botanical specimens of the gum-bearing trees and of tubers were made and sent to the Reporter on Economic Products for the Indian Museum and Imperial Institute, London. The Forest Divisional Officers of Chanda, Nimar and Seoni were good enough to undertake this duty. The sample of gum of *Anogeissus latifolia* furnished by the Forest Divisional Officer, Chanda, is described by the Reporter as one of the finest gums belonging to this genus which have been registered in the Museum.

Pottery.

38. The collection and transmission to the Reporter of specimens of clay or other material used by the potters of the various districts where the manufacture of pottery is carried on, and also of small quantities of all the colouring materials employed, was completed during the year under report.

Lathyrus sativus.

39. In paragraph 37 of last year's report it was stated that arrangements were being made for the supply to the Reporter of further samples of the grain of the vetch known as lakh, and that

samples were awaited from Jubbulpore, Raipur, Seoni and Sambalpur. The first two named districts sent samples direct to the Reporter, while the Deputy Commissioner, Sambalpur, reported that the seed is not available in his district; the Deputy Commissioner, Seoni, promised to furnish the seed in March 1902. The investigation of the form of paralysis caused by eating lakh is a matter of great importance to the northern districts of these provinces, and I believe that the disease is much more common in the adjoining Native States of Central India. It is to be hoped that something practical will result from the investigation.

Sugar-cane disease.

40. The first action taken by this department in connection with this subject is given in paragraph 38 of last year's report. In his Annual Report of operations in the office of Reporter on Economic Products to the Government of India for 1901, Dr. Watt writes as follows:—

"Specimens have been received in this office from Bengal, the Central Provinces, and "Madras. But the results hitherto obtained from a close examination of the whole series "have been more negative than positive. Most of the specimens received from District "Officers came to hand in a hopelessly dry condition, rendering identification of the actual "pests extremely difficult if not impossible. But the evidences to hand were sufficient to "prove that so far as Bengal and the Central Provinces were concerned, the sugar-cane "disease (*Trichospœria Sacchari*) was non-existant. Traces were indeed found of the "depredation of the common sugar-cane borer (*Diatræa Saccharalis*), while one of the "most remarkable features observed was the presence of white-ants as one of the agents "of destruction to sugar-canes, the stems in some cases having been worn away to the mere "outer epidermis of one-eighth of an inch."

Prospects of castor as an auxilliary to tea and indigo.

41. At the request of the Reporter on Economic Products some selected officers have been asked to institute a special enquiry into the cultivation of castor, and to procure botanical samples in flower and fruit and seed of each variety of castor.

Lac industry.

42. The enquiry into the lac industry in these provinces and the collection of specimens of the wood from which toys are made, of the toys themselves, and of shell lac and of all the materials used in colouring them has made much progress during the year. Specimens of lac toys are awaited from Chanda and Raipur, and a note describing the lac industry in toy making in the last mentioned district is required.

Gondal Fluid as a white-ant exterminator.

43. It was mentioned in last year's report that Deputy Commissioners were asked to make extended trials of the Gondal fluid in checking the depredations of white-ants on trees. During the year under report, reports have been received of several trials, the results of which have been published in a bulletin. The results are generally very satisfactory.

Investigation into the forms of Dioscorea yams.

44. The attention of District Officers, whose co-operation was required in the collection of specimens of the numerous forms of Dioscorea (yams), whether wild, cultivated, indigenous or exotic, was re-invited to the matter, and considerable progress has been made in all districts except Saugor, Damoh, Mandla and Chanda. The District Officers of Raipur and Sambalpur have contributed specimens from parts of their districts. The nineteen varieties of tubers used by the wild tribes of Balaghat, which were transmitted to the Reporter last March, have been described by that officer as the most interesting sets hitherto received in this connection, though it is unfortunate that most of the specimens were incomplete, showing neither flowers nor fruits. The Forest Divisional Officer has promised to obtain complete sets of each sample in their flowering and fruiting stages in September 1902.

Returns of mineral productions.

45. The returns relating to the production of minerals were compiled in this office and submitted to the Reporter, through the Provincial Secretariat, accompanied by reports on the iron industry of the provinces by Deputy Commissioners and Forest Officers.

Veterinary work.

46. The post of Superintendent, Civil Veterinary Department, remained vacant during the whole year, but the Hon'ble the Chief Commissioner was pleased to sanction the creation, with effect from the 1st April 1901, of a temporary appointment of Senior Veterinary Inspector on Rs. 150 per mensem until such time as a Superintendent, Civil Veterinary Department, is posted to the Central Provinces, and the appointment of Mr. C. Pillay, Veterinary Inspector, Nagpur, to the post. Mr. Pillay joined his new appointment on the 20th May 1901, and was employed as my Assistant in veterinary matters. Mr. Pillay inspected the dâk ponies on the Piparia-Pachmarhi dâk line, the Bilaspur, Hoshangabad, Jubbulpore, Wardha and Saugor dispensaries, and the Government stallions in the last mentioned district, Damoh and Narsinghpur. Mr. Pillay's notes embodying the results of these inspections were forwarded to the officers concerned.

As the inhabitants of the town of Raipur make considerable use of the dispensary, I suggested that the Municipal Committee should be asked for an annual grant. If the Municipality vote an annual grant, it will be possible to engage another Veterinary Assistant for purely peripatetic work. The Municipal Committee propose to consider the question of a grant at their next budget meeting. Considering that there are at present two Veterinary Assistants attached to the dispensary, the amount of touring done in the past has not been sufficient.

Horse-breeding.

47. There were five horse stallions in the provinces, three (Yakubkhan, Fussy, and Sunbeam) at Saugor, one (Shumsher) at Damoh, which was transferred from Saugor on 27th April 1901, and one (Sultan) at Narsinghpur. There is also a donkey stallion (Burj) at Saugor. The horse-stallion (Sunbeam), which was presented to the department by Mr. A. L. Saunders, died from colic at Saugor on the 15th August 1901. The number of mares served by the horse and donkey stallions is given below :—

District.	Name of stallion.	Number of mares served during the quarter ending				Total.
		December 1900.	March 1901.	June 1901.	September 1901.	
Saugor	Yakubkhan	3	2	10	4	19
	Shumsher	4	4	7	...	15
	Fussy	6	5	16	4	31
	Sunbeam	...	...	3	2	5
	Burj (Donkey)	2	3	6	1	12
Damoh ...	Shumsher	...	...	18	3	21
Narsinghpur ...	Sultan	...	9	12	4	25

The results are not very satisfactory, considering that a stallion should cover at least fifty mares per annum.

The results of the coverings of the stallions in 1899-1900 are given below :—

District.	Name of stallion.	Number of mares covered.	Results of coverings.			
			Number of mares foaled.	Number of mares miscarried.	Number of mares died while pregnant.	Number of mares not held.
Saugor ...	Yakubkhan ...	19	2	7	2	8
	Shumsher ...	22	4	5	2	11
	Fussy ...	31	2	12	6	11
	Sunbeam ...	...	...	...	...	...
	Burj (Donkey) ...	12	2	3	2	5
Narsinghpur ...	Sultan ...	16	4	...	...	12

The results are unsatisfactory considering that 33 per cent. is the ordinary average of successful coverings. Indeed it must be admitted that in these provinces the horse-breeding operations have, hitherto, been a failure. It will be the first duty of the Superintendent, Civil Veterinary Department, to investigate the causes of this failure and to make proposals for the future.

Veterinary dispensaries.

48. The number of veterinary dispensaries in these provinces remained the same (*viz.*, eight) as in the previous year. The extent to which the dispensaries have been used is shown by the following figures which are contrasted with those of the previous year :—

District.	Number of cases treated.				Average daily attendance.		Number of operations performed.		Number of villages inspected.	Number of cases treated.
	Horned cattle.	Horses.	Other animals.	Total.	1899-1900 (October 1899 to September 1900.)	1900-01 (October 1900 to September 1901.)	Major.	Minor.		
Nagpur ...	1,123	694	630	2,447	14·60	14·63	16	110	76	74
Raipur ...	510	684	583	1,777	14·56	11·72	19	109	51	676
Jubbulpore ...	752	732	250	1,734	2·09	13·74	22	100	41	160
Hoshangabad ...	623	270	156	1,049	5·68	20·72	19	109	...	...
Wardha ...	311	192	183	686	10·10	8·91	...	32	53	38
Bilaspur ...	2,842	337	225	3,404	18 81	21·72	1	7	34	109
Mandla ...	318	299	127	744	15·56	14·45	2	15	...	..
Saugor ...	648	677	429	1,754	12·29	12·46	10	92	1	3

Recent inspections have shown that these institutions have not yet been successful in fulfilling the main object with which they were started, which was to provide veterinary treatment for the agricultural cattle of the district. It has been found that the attendance at the dispensaries is largely limited to the animals of the European and other residents of the head-quarters station at which the dispensary is situated, whilst but few agriculturists send their cattle for treatment. This failure may in part be due to indifference on the part of veterinary subordinates combined with insufficient supervision and encouragement from the District Council and Local Officers; but it seems almost inevitable in cases where there is only a single Veterinary Assistant attached to the dispensary. Until veterinary treatment is popularized amongst the cultivators by the successful treatment of cattle in the villages, it is improbable that they will bring them to dispensaries, whilst the dispensary work must suffer unless the people can always resort to it with confidence that they will find a qualified Assistant ready to attend to their patients. It is thus necessary to combine peripatetic work and dispensary treatment. Peripatetic work also has not been so successful as it should be even in districts where there is a second Veterinary Assistant. I have recently suggested that a definite scheme of peripatetic work should be arranged, whereby a Veterinary Assistant will confine himself to a small area, taking up temporary head-quarters and opening a camp dispensary at some suitable village. He would then visit the villages within an easy distance of this centre, enquiring into the diseases of the cattle, giving veterinary treatment, and advising the people regarding cattle ailments. He would then pass on to a fresh centre only when he finds that no animals remain for treatment.

49. Of the two scholarship holders in the Ajmere Veterinary College, one (Mahomed Abdul Khadir) passed out in April 1901 and has been given a Veterinary Assistant's post, whilst the other (Gouri Shanker) will appear this month at the final examination. During the year the sanction of the Local Administration was obtained to the deputation of two new students (C. Subannah and Kunj Biharilal) to the Ajmere Veterinary College.

50. The orders of the Government of India on the scheme for the organization of the Provincial Civil Veterinary Department, and which was considered and reported on in this office letter No. 958, dated the 14th March 1901, were received after the close of the year. The monthly salary of Veterinary Assistants has been fixed at Rs. 30, rising by biennial increments to Rs. 50, itinerating Veterinary Assistants being given an extra allowance of Rs. 10 per mensem. The ultimate scheme for the Provinces is that there should be a dispensary at each tahsil head-quarters, to which should be attached two Veterinary Assistants, one of whom should be constantly employed upon peripatetic work.

Enumeration of live-stock and registration of cattle-disease.

51. The following statistics of live-stock cannot as yet be guaranteed as accurate, but they are improving from year to year. The number of plough-cattle has still further decreased by 51,243. The decrease is observable in all the divisions except Chhattisgarh, where there is a slight increase of 250. The figures show a loss of over 200,000 plough-cattle, or 8 per cent. during the last famine:—

District.	Number of Plough-cattle.	
	1899-00.	1900-01.
Saugor	92,355	89,476
Damoh	72,141	71,887
Jubbulpore	168,365	162,275
Mandla	75,518	75,518
Seoni	75,201	80,685
Narsinghpur	57,692	60,942
Hoshangabad	126,868	121,872
Nimar	56,289	80,102
Betul	113,881	95,122
Chhindwara	117,945	110,362
Wardha	92,490	85,414
Nagpur	154,841	162,700
Chanda	177,309	157,687
Bhandara	177,777	162,493
Balaghat	86,465	77,109
Raipur	485,754	484,522
Bilaspur	263,666	270,358
Sambalpur	273,801	268,591
Total ...	2,668,358	2,617,115

Cattle-disease.

52. Registration of cattle-disease by patwaris continues to be confined to the Wardha and Nagpur districts. The number of deaths reported in Wardha is 16,288 and in Nagpur 8,519. In Mandla the mortality from cow-pox was heavy in October 1900, July and September 1901. There were outbreaks of rinderpest in Saugor, Hoshangabad, Wardha, Nagpur and Chanda. In the latter district the mortality from this disease was serious only at the beginning of the year. The Nimar District was particularly free from cattle-disease. The Deputy Commissioner, Chhindwara, reports that in the Chhindwara Tahsil cattle suffered from a disease the name of which was unknown to the people. The symptoms of the disease were that cattle would get a black mark in their stomach and after some days' suffering would succumb. The disease was contagious. On the whole the year does not seem to have been an unhealthy one for cattle. The Deputy Commissioner, Hoshangabad, reports that some cultivators in the Sohagpur Tahsil are reported to have followed with fair success the treatment given in a Hindi book. The Deputy Commissioner has not mentioned the name of the author of the book, but probably it is Syed Sirdar Shah Gilani's Manual on Cattle-disease, copies of which were supplied by this department in 1897-98.

Cattle-breeding.

53. The establishment of a provincial cattle-breeding farm at Telinkheri has been sanctioned by the Honourable the Chief Commissioner. The sheds are being erected, and it is expected that the farm will be started before the setting in of the monsoons.

54. The usual annual agricultural statistics have been prepared and submitted to the Director-General of Statistics. The annual return of rail-borne traffic was reviewed and submitted to the Statistical Bureau. This return has been expanded by the separate exhibition of the trade in (1) apparel, (2) cotton manufactured—others, (3) chemicals, (4) medicinal preparations, (5) tanning barks, (6) fodder—(*a*) oil-cake and (*b*) hay, straw and grass, (7) fruits and vegetables—fresh, (8) wheat flour, (9) leather—wrought and unwrought, (10) wood—(*a*) timber, unwrought, and (*b*) manufactures. The system of valuing articles carried by rail has also been modified by valuing separately each quarter's trade instead of applying the average value of the year to the total trade.

Co-operation with the Statistical Department.

55. The number of crop-cutting experiments conducted during the year under report was 894 as compared with 667 in the previous year. The officers of the Settlement Department contributed 71 per cent. of the total number of experiments. The Deputy Commissioners of only seven districts, *viz.*, Damoh, Seoni, Narsinghpur, Betul, Wardha, Chanda and Balaghat, made crop experiments, the Deputy Commissioner, Wardha, contributing the largest number, *viz.*, 34

Crop-cutting experiments.

56. At the instance of the Commissioner of the Nagpur Division two posts were established on the Chhindwara and Katol roads, to register the traffic which now comes into Nagpur from these directions, and which the proposed Light-feeder Railway from Nagpur to Pandhurna would attract. The posts were opened on the 28th October 1901.

Registration of road traffic.

SECTION V.

SCIENTIFIC AND LOCAL ENQUIRY UNDER PROVINCIAL DIRECTION.

57. The Nagpur Experimental Farm to which is attached some Government land at Telinkheri is the only institution of the kind in the Central Provinces, and is managed by Mr. R. S. Joshi, who also looks after the fuel and fodder reserve at Telinkheri. This officer is also Principal of the Agricultural School. The season was a favourable one for kharif, but was a poor one for rabi crops. Arhar (tur) was the only kharif crop of which the yield was poor. Juar yielded an average crop, while cotton gave phenomenal yields, the largest ever attained on the farm. The yields of the rabi crops were so small, no matter under what conditions they were grown, that no conclusions can safely be drawn from the year's experiments, and this is more to be regretted because the results of the last five years' experiments in rabi crops have been vitiated by the unusual seasons.

Some interesting experiments have been made with new varieties of crops. The most important of these are connected with varieties of cotton. The "Upland Georgian" American cotton maintained its reputation as a fairly good variety, and considerable success has also been attained with the Egyptian varieties grown as a rabi crop. The results of the experimental cultivation of Egyptian cotton have been published in a bulletin. A new departure, and a most successful one, was made with the preparation of ensilage, one silo being made in a pit below the ground and one by stacking the material above ground. Both produced excellent silage.

For some years past experiments in plant-breeding have been made with the object of raising by cross-fertilization a good wheat with rust-resisting qualities. One variety, a hybrid of *haura* and *mundia-pissi*, shows some prospect of being successful. Some seed of this variety was distributed for trial in several districts with instructions that its rust-resistent power should be tested. In the present year there has been no rust, so that the experiment has not been advanced. Similar steps will be taken next year. Experiments were also made in several districts to test the truth of the theory that rust can be mitigated, if not prevented, by the use of two-year old wheat seed. The solution of this problem has also not been advanced owing to the dry conditions of the year.

Rust in wheat.

58. This is the first year in which the Telinkheri Farm has been under management. Much of the land was placed under cultivation, and the receipts almost equalled the expenditure. The land is not yet fit for experimental work, but a start has been made to test the different methods of rice cultivation.

Telinkheri Farm.

59. The sewage farm has continued to be successfully managed. It is satisfactory to note that for the first time it has not been worked at a loss, the rents and water rates paid by the cultivators having more than covered the expenditure.

Sewage farm.

60. In paragraph 60 of last year's report the subject of the experiments connected with the introduction into the Mungeli Tahsil of the Bilaspur District of the cultivation of juar on the Nagpur plan, carried out under the control of Mr. Low, I. C. S., Settlement Officer, Bilaspur, was referred to. During the year under report the Administration sanctioned the entertainment, for a period of eight or nine months, of a Revenue Inspector required to supervise the operations. Revenue Inspector Kesho Govind entered upon his new duties on the 16th May 1901. During the course of his tours he addressed the malguzars on the advantages of juar cultivation, but had not much time at his disposal for the preparation of the necessary implements and the training of cattle. Of the six ploughmen who were sent from Nagpur, two were placed at Pandaria and Nawagarh and one each at Lormi Ranteh and Maro. The supply of seed (gâneri and motichura) reached the Inspector on the 3rd June 1901. No delay was allowed to occur in its distribution. The supply of seed proved to be insufficient, but the deficiency was largely made up by obtaining seed from the Reverend Mr. Gordon's Experimental Farm at Pandridih and from some local malguzars. Of the two varieties of seed obtained from the Nagpur Farm, the germination was not very successful owing to unfavourable conditions at sowing time. Re-sowings were resorted to, but with no good results. The crops were also damaged by grass-hoppers; the late monsoon was also unfavourable for the crop. The Inspector was disappointed with the ploughmen.

Introduction of juar into the black-soil tract in Chhattisgarh.

Next season's experiments will be conducted on a scheme which I drew up in October 1901. According to the scheme a farm overseer and a ploughman with selected seed and with a complete equipment of bullocks, implements, &c., who will grow juar and cotton and fully explain the system to the people, will be sent out by this department. The operations of the establishment will be concentrated at five demonstration farms situated within about 20 miles of each other. At each centre there will be an area of about 6 to 7 acres of land suitable for juar and cotton cultivation. The farm overseer will arrange with the owners of the fields selected for experimental cultivation for the proper preparation of the land with their bullocks at their expense; he will advise them regarding the eradication of *babul* shrubs and weeds, so that the land may be properly cleared. He will also show them how a properly trained pair of bullocks work, advise them to provide some of their own cattle with nose strings, and train them to walk straight between the furrows. The object which the farm overseer will have in view throughout the experiments will be to induce local cultivators to copy his method in their own fields other than those selected for experimental cultivation. With this object he will try and induce the local cultivators to make up implements on the model of those used by him. At the proper sowing time the selected seed will be sown by him at each centre with the Nagpur bullocks, and each experimental field will be weeded by him with the bullock-hoe. The Farm Superintendent will also visit the district at least twice during the experiments.

61. The operations connected with the experimental cultivation of cotton in Nandgaon and the neighbouring States were continued by the Bengal-Nagpur Cotton Mills Company during the year under report. The efforts of the Company in extending cultivation in the States are directed towards affording a means of demonstrating practically to the cultivators the advantages of this alternative crop.

Introduction of cotton cultivation in the Raj-Nandgaon and Khairagarh States.

In the year 1900 the Company advanced to the States seed sufficient to sow 15,000 acres, and the quantity of cotton delivered at the mills amounted to about 600,000 lbs. In the year 1901 the Company advanced seed sufficient to sow about 12,000 acres, and up to February 1902 received from the cultivators between 800,000 and 900,000 lbs. of cotton, and expect to receive a further 300,000 lbs. The Director reports that a considerable portion of this cotton came from the districts of Kawarda and Sambalpur, for which no seed was supplied by the Company, and in which the cultivation of cotton has no doubt extended by the demand created by the mills. The results of the experiments in the districts which the Company have been supplying with seed have only been successful to a very small extent owing to the extreme want of knowledge on the part of the cultivators of the proper modes of cultivation, and their consequent prejudice to the crop, which is illustrated by the proverb in Chuikhadan: "He who cultivates cotton must starve." In the course of an interview which I had with the Director in February 1902, I expressed to him my doubts as to the wisdom of stopping suddenly the advances of cotton seed which have been made in the past two years. These advances have, apparently, resulted in a larger area being placed under cotton, and it would be a pity to do anything which might injure the extension of cotton cultivation. I suggested that sums of Rs. 5,000 might be made available for cotton seed advances in both the Nandgaon and Khairagarh States on the same conditions on which the former advances were made. I recommended that the whole of the advances should be made in cotton seed of the "jari" variety, for until further advance in cotton cultivation has been made it is desirable to introduce only a local hardy and prolific variety. In a recent communication which I addressed the Commissioner of the Chhattisgarh Divison, I expressed my opinion that the most feasible means of introducing cotton cultivation upon approved methods is that in each State five suitable centres should be chosen to start demonstration farms. At each centre there should be enough land suitable for cotton cultivation to employ one pair of trained bullocks and a ploughman assisted by local labour. The area of each demonstration farm should then be 20 to 40 acres. For the direct supervision of these demonstration farms, I expressed my willingness to lend the services of a trained Supervisor who would work under the control of the mill authorities and the State. I promised also to arrange to purchase the necessary bullocks and implements, to engage the ploughmen, and to lend the services of Mr. Joshi to make inspections from time to time. The scheme sketched out by me laid down that the village headmen would be required to give available land for these demonstration farms. They should also give all the local labour (including cattle) required for the cotton cultivation, which could not be done by the farm ploughman and pair of bullocks. In return for this assistance a share of the cotton produced, say one-half, should be given to the village headman on condition that he sells it at the market rate to the Raj-Nandgaon Mills. The estimated cost of the proposals is Rs. 2,500. The sale of the cattle and implements would realize Rs. 700, so that the net expenditure would not exceed Rs. 1,800, against which there would be the value of half the produce. Mr. Greenway stated that the mills were prepared to accept these proposals on condition that the States concerned agreed to pay half of the out-of-pocket expenses at the end of the season. He suggested that three complete sets of experiments should be carried out, *viz.*, in the Nandgaon, Khairagarh and Kawardha States. Each State would thus incur a maximum liability of Rs. 1,250, and in every probability the actual cost would not exceed Rs. 500. In order to produce some real effect, it will probably be necessary to continue these experiments for some few years upon the same lines.

Supply of Egyptian cotton seed to Bengal-Nagpur Cotton Mills Company.

At the request of Mr. Greenway 30 lbs. of Egyptian cotton seed was supplied to the Manager, Bengal-Nagpur Cotton Mills, Raj-Nandgaon, with instructions for its cultivation and a copy of Central Provinces Bulletin No. 3 of 1901.

Experiments with the date-palm.

62. During my visit to Khandwa at the beginning of the year under report, I inspected the workshop of the Date-Sugar Manufacturing Company. One of the present drawbacks is that the date-tree in Khandwa yields only a smaller quantity of sap than the Bengal tree. This small yield is considered by the Manager to be largely due to the fact that

the crown leaves of the trees are often lopped during the hot weather for use as cattle-fodder and by basket-makers. This destruction of the crown leaves must undoubtedly injuriously affect the vitality of the tree; but it has yet to be proved that even under favourable conditions of cultivation the climate of Khandwa is capable of producing such good sap-producing trees as the climate of Bengal. I enquired from the Manager why it was not possible to protect the trees in his date-forests, and his reply was that the owners of these were unwilling to lease them without any reservation of the right to take leaves. This, however, would seem to be a pure business matter as to the most profitable use to which the owner can put his date-forests. The real difficulty appears to lie in the fact that the Company is not willing to expend sufficient money to purchase exclusive rights in date-forests and to employ a protective establishment to guard the trees from injury. I suggested to the Manager that suitable date-forests for his experiments might be found in Government forests or Government ryotwari villages, of which Government would, in my belief, be willing to allow him free use for a few years and assist him in protecting the trees. Another drawback to his experiment is the local prejudice against the use of date-sugar and jaggery which is said to possess an unusual taste. In order to assist the Company to find an experimental market for their produce, the Inspector-General of Jails at my instance requested all Superintendents of Jails in the province to obtain from the Company some supplies of *gur*. The experiment is reported by the Inspector-General of Jails to have been a troublesome failure, so that the Company have thus lost a favourable chance.

The Company have as yet failed to prove that the date-sugar is a practical industry in the Central Provinces, but they have shown that there is at least fair prospects of ultimate success. The main points on which doubt still exists are—

(1) the amount of *rab* and sugar which the local palms will yield;
(2) whether the palms will respond to regular methods of cultivation in a dry climate like the Central Provinces;
(3) whether the Central Provinces climate is ordinarily cool enough to admit the extraction of date palm juice without fermentation, &c.;
(4) whether the palms will stand tapping for date-juice.

I am inclined to think that there are hopeful possibilities of being able to create a *village* industry which will provide supplies of *gur* and course sugar, perhaps of an inferior quality but of sufficient merit for consumption in the villages. There seems to be sufficient prospects of ultimate success to justify Government in making some experiments at the Telinkheri Farm, where there are many wild date-palm trees. The Manager of the Khandwa Sugar Manufacturing Company has suggested that the vernacular class of the Agricultural School should be taught the method of extracting date-juice, its manufacture into sugar, and the methods of artificial cultivation of date-palm gardens.

For this purpose it would be necessary to import an expert tapper from the Jesorra district of Bengal.

Experimental cultivation with American maize.

63. A consignment of 32 lbs. of American maize seed supplied by the Board of Commissioners for Foreign Missions, Poona, was received too late to admit of the Superintendent of the Nagpur Experimental Farm experimenting with the seed during 1900. The seed had therefore to be stored for cultivation during the last rains; some of it was sown in June 1901 in a plot on the Nagpur Experimental Farm alongside a plot planted with the Jaunpur variety, which is the best variety hitherto grown on the Farm. The germination of the seed was not very successful, but the few plants which were raised made strong and healthy growth and were taller than the Jaunpur variety; they were later by 20 days in coming to maturity. The cobs were very large, but the grain was scanty, as is generally the case until the foreign grain has become acclimatized. The grain was found to be less palatable than the Jaunpur variety. The sample seed was flat, while the seed of the Jaunpur variety is round. It was observed that the grain produced by the plants raised from the sample seed

was not quite as flat as the original seed; it is thought that the slight change is due to natural cross-fertilization which took place when the two varieties occupied the ground on the Farm.

Protection of crops from damage by trees.

64. The treatment found successful at the Nagpur Experimental Farm of digging trenches between trees and crops in their vicinity in order to save the latter from the loss of moisture otherwise absorbed by the surface roots of trees was tested in four districts, *viz*, Narsinghpur, Hoshangabad and Wardha. The results of the experiments in Narsinghpur and Hoshangabad are not yet known. In Wardha 29 out of 57 experiments are said to have demonstrated the advantages of the method. From my farm inspections I am inclined to think that the digging of trenches round trees is only successful for a limited number of years, the roots again coming up to the surface beyond the trench after they have passed below the trench.

Fuel and Fodder Reserves.

65. The fuel and fodder reserves in Raipur are in charge of the District Council to whom they have been leased at a nominal rent for a term of five years. The Commissioner, Chhattisgarh Division, visited the Simga-Duldula fuel and fodder reserve last November, and has remarked that the results are promising for so bare and stony a place. The prevailing grass is a poor variety, but some valuable gandri thatching grass has commenced to grow. The Superintendent of the Farm has advised as to the best methods of encouraging this latter variety. The income from the reserves during the year 1900-01 was Rs. 1,327. The Bilaspur reserves are managed by the Deputy Commissioner. The income from the sale of grass during the year was Rs. 875 against Rs. 1,367 in the previous year, and the expenditure Rs. 555 against Rs. 1,238.

66. The income of the Telinkheri reserve was Rs. 841-9-3 and the expenditure on establishment was Rs. 132-4-0 resulting in a net profit of Rs. 709-5-3.

Paspalum dilatatum.

The results of the experimental cultivation at the Nagpur Experimental Farm of some of the Australian fodder grass (*paspalnm dilatatum*) seed, received in June 1900 from the Manager, Lismore Experimental Farm, Wollongbar, New South Wales, are given in paragraph 68 of last year's report. A small quantity of this seed was sent in September 1900 to Mr. Hallifax, Assistant Commissioner, Sironcha, for experimental cultivation in the sandy soil of that tahsil, but it failed. A further supply (5 lbs.) of the seed was obtained in November 1900, which was supplemented by a smaller supply (½ lb.) received from the Superintendent, Royal Botanic Garden, Calcutta, in February 1901. The larger portion of this seed was sown both in a low-lying black-soil plot of land on the farm and in the Telinkheri fodder reserves, which consist of a low range of stony hills. The germination of the seed sown at the Nagpur Farm and at Telinkheri was not as successful as in the previous years. The quality of the fodder is reported to be far superior to the other grasses, being more juicy, succulent and palatable. The grass on the hill died along with the other local varieties, whilst that grown on the farm required irrigation. It thus failed to show any drought-resisting qualities. The yield was short and it shows little sign of forming permanent pasture land, growing in thin tussocky clumps. It is also smothered and overgrown by local varieties, unless kept clean by weeding. A small quantity of seed was sent to the Deputy Commissioner, Chanda, who reports that some of the seed was sown in the Government Garden and also in low land along the river bank, but not a single seed germinated. The Deputy Commissioner ascribes the failure to the lateness in sowing. I propose to have the seed tested further in the fodder reserves of Chhattisgarh, but the results hitherto attained are disappointing.

SECTION VI.

AGRICULTURAL EDUCATION.

Agricultural School.

67. The Agricultural School has done a good year's work. My inspections have shown that sufficient attention is not given to practical agriculture and field work. The senior class was a fairly large one, but the junior class did not fill so well, the numbers being 13 and

7 respectively. The raising of the educational standard has had some effect upon admissions, but it brings a much better class of student. A new hostel is now being constructed on a site near the farm, which will greatly improve the efficiency of the school.

Of the two scholarship-holders at the Poona College of Science, the senior (Bhaya Lal) passed out in December last and is at present in temporary charge of the Government Experimental Farm, Nagpur. Since the close of the year a scholarship at the Poona College has been awarded to Ganesh Ramchandra, F. A., a student of the Agricultural School, with effect from the 7th January 1902. It is gratifying to record the opinions of the Inspector-General of Agriculture and the Agricultural Chemist, that the Nagpur students are the best students of the Poona College.

During the year under report Rai Bahadur Chandra Kumar Chatterji, late Extra-Assistant Conservator of Forests, Central Provinces, has been pleased to endow a fund called "The Kalidas Chowdhry Medal" for the purpose of awarding a medal to the student of the senior class of the Nagpur Agricultural School who shows most proficiency in practical agriculture and special aptitude for field work. This encouragement to the school should result in improvement in that branch of the work which is at present the weakest.

Since the close of the year, the Hon'ble the Chief Commissioner has approved the opening of a Hindi class in the Agricultural School to provide a sound practical training in agriculture to the sons of landowners and others who intend to make farming their profession in life. The opening of this new class marks a step forward in the system of agricultural training which may have important results upon the agriculture of the Provinces if it is successful. The course is to be entirely practical, and will be confined to subjects which can afterwards be put to use by any ordinary cultivator in his own fields. It has been decided for the present to demand no fees in this class, whilst free accommodation for students will be provided in a new boarding-house which is under construction, so that the only expense to which the student will be put is that required for food. All Deputy Commissioners have been asked to co-operate in endeavouring to secure students for the first class, which will open on the 15th May 1902.

Normal Agricultural Class.

68. The first session of the Normal Agricultural Class was attended by 50 schoolmasters, out of whom 43 obtained certificates. Sixty-seven attended the second session, of whom 52 passed the prescribed test and obtained certificates. The fault in the system of instruction of this class is that the instructors endeavour to impart a smattering of the rudiments of scientific agriculture instead of confining their teaching to clear explanations of the lessons which the schoolmasters will be required to teach with object lessons in their own schools.

SECTION VII.

PUBLICATION OF AGRICULTURAL INFORMATION.

69. Much of the work done has been enumerated in Section IV. Apart from the usual forecasts, trade returns, agricultural statistics, &c., the department published (1) a Note on the Crop Statistics of 1900-01, (2) a Bulletin on experiments in the growth of Egyptian Cotton at the Nagpur Experimental Farm, (3) a Bulletin on Agave (the aloe plant and its fibre), and (4) a Bulletin on the utilization of Night-soil as Manure.

Trial of implements. Appendix III.

70. In accordance with instructions contained in Revenue and Agriculture Department Circular No. 13-72—16, dated the 3rd May 1899, a list of agricultural implements and machines which were tested during the year ending the 30th September 1901, and of those which are reported to have met with more or less marked success during the year, is appended to this report. The most successful new machine is the American fodder cutter and shredder, which is a most useful machine for cutting up the stalks of juar, &c. Its use results in great economy in the use of this cattle fodder, so that it has caught on and several have been sold to the public.

Hindi Agricultural Gazette.

71. Since the close of the year, the Hon'ble the Chief Commissioner has sanctioned the publication by this Department of a Vernacular Agricultural Gazette. The object of the publication is to disseminate amongst the agricultural population of the Provinces useful information concerning agriculture and improved methods of cultivation likely to be suitable for trial. By this means it is hoped that knowledge will reach the actual cultivators of much interesting matter which at present is not communicated to them by existing publications which are mostly in English. The journal is published in monthly numbers, of which the first issue appeared in January 1902. The publication is distributed to Commissioners, Deputy Commissioners, Settlement and Assistant Settlement Officers, Tahsildars, Superintendents of Land Records, Assistant Superintendents of Land Records, Revenue Inspectors, Presidents of District Councils and Chairmen of Local Boards. In addition a small number of copies are distributed free to selected practical cultivators who take an interest in agricultural improvement. The annual subscription (inclusive of postage) is Re. 1, and from the number of persons who have already subscribed, it would seem that the journal meets a real want and will attain a wide circulation.

SECTION VIII.

FINAL (MISCELLANEOUS).

Fairs.

72. The usual statistics relating to the more important fairs were collected and published in the *Central Provinces Gazette.*

Extension of communications.

73. An addition of 56¼ miles was made to the Railway system of the Provinces during the year by the extension of the Bengal-Nagpur Railway Branch line from Raipur to Dhamtari with its branch to Rajim and by the Great Indian Peninsula Railway to the coal fields at Gotitoria. Road construction has added 39 miles of new roadway, and 96 miles have been raised in class.

Museums, arts and sciences.

74. The Provincial Museum at Nagpur and the local one at Raipur are still the only institutions of this class in the provinces. The daily average number of visitors to the Nagpur Museum was 287. A number of coins and other exhibits were obtained during the year by gift or purchase; and some valuable additions to the library were made. The number of visitors to the Raipur Museum was even smaller than in the preceding year owing to the prevailing agricultural distress. I visited the museum in July and discussed matters with the Secretary of the District Council. I saw the museum under unfavourable circumstances, because the building was used temporarily as a Municipal Office, but it is evident that the museum has been neglected in the past. There have been some purchases of exhibits which add to the attractiveness of the museum to visitors, but some of which are hardly suitable for exhibition in a museum. I suggested a collection of local samples of all crops grown in the district, of forest products, of metalware, of glassware, of lacquerware, of cloth, *kosa*, &c.

Cultivation of tassar-silk worms.

75. Deputy Commissioners have been requested to make an enquiry into the cultivation of tassar-silk worms. The management of forest areas set aside for this purpose has, hitherto, been under the Forest Department, but the Administration now desires that such areas should be disforested and made over to the Revenue Department. The orders contemplate that areas should be excised sufficient not only for actual tassar baris but for ryotwari cultivation in addition, so as to establish a settled village. Deputy Commissioners have accordingly been asked to make a detailed enquiry during the camping season into the state of tassar cultivation in their districts, and of the steps which it is necessary to take in order to give effect to the wishes of the Administration. I am not sanguine that this proposal will succeed, for the class of persons who rear tassar-silk worms are not likely to settle down to ryotwari cultivation.

CORRIGENDA.

Report on the Department of Land Records and Agriculture, Central Provinces, for the year ending the 30th September 1901.

Paragraph.	Page.	Line.	For	Read
62	19	42	Jessorra	Jessore.
64	20	7	four	three.
66	20	4	Paspalnm	Paspalum.

F. G. SLY,

Director of Land Records and Agriculture,

Central Provinces.

Secretariat Press, Nagpur :—J. E. A., 10-5-1902—650.

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Report on the Department of Land Records and Agriculture, Central Provinces, for the year ending the 30th September 1901.

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Director of Land Records and Agriculture,

Central Provinces.

Secretariat Press, Nagpur :—J. E. A., 10-5-1902—650.

Employment of patwaris in the sale of quinine.

76. During the year under report the Local Administration approved of the system of the sale of quinine being extended as an experimental measure to the patwaris of the Bhandara District, and, in the event of its proving a success after a year's trial, to its being extended to all patwaris in the provinces. The Administrative Medical Officer, in consultation with my predecessor, drew up a set of rules for the working of the system, but it yet remains to see whether it will be successful.

F. G. SLY,

Director of Land Records and Agriculture,

Central Provinces.

APPENDICES.

I.—Statement showing the Punishments inflicted on Revenue Inspectors during the year ending 30th September 1901.

II.—Statement showing the Punishments inflicted on Patwaris during the year ending 30th September 1901.

III.—List of Agricultural Implements which have been tested in the Central Provinces during the year ending 30th September 1901.

Statement showing Punishments inflicted on Revenue

Nature of Offence.		Saugor.		Damoh.		Jubbulpore.		Mandla.		Seoni.		Narsingh-pur.		Hoshang-abad.		Nimar.	
		Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
			Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
Non-Residence.	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Misconduct	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Neglect of work (including inefficiency.)	Dismissed	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...
	Degraded	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
	Fined	3	25	2	12	...	...	3	18	...	...	1	*15	2	20	...	...
	Suspended	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	3	25	3	12	1	...	4	18	...	...	1	15	3	20	...	...
Dishonesty	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	1	15	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...	...	...	2	15	...	...
Pecuniary embarrassment.	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Physical inability to stand out-door work.	Dismissed	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Degraded	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fined	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Suspended	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Transferred	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Grand Total.	Dismissed	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...
	Degraded	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
	Fined	3	25	2	12	...	...	3	18	...	...	1	15	3	35	...	...
	Suspended	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...
	Transferred	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
	Total	5	25	3	12	1	...	4	18	...	...	1	15	6	35	...	...

* Includes loss o
† In addition to this fine the Inspectors
‡ Suspension commuted

DIX I.

Inspectors during the year ending 30th September 1901.

Betul.		Chhindwara.		Wardha.		Nagpur.		Chanda.		Bhandara		Balaghat.		Raipur.		Bilaspur		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
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2	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	2	...	...	...
1	10	2	5	1	5	6	49	1	25	4	†18	...	...	3	25	...	...	4	70
...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	‡1	...
...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	2	...
3	10	2	5	1	5	7	49	1	25	5	18	..	...	3	25	3	...	7	70
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	..	...	...	...
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...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
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APPEN

Statement showing Punishments inflicted on Patwaris

Nature of Offence.		Saugor.			Damoh.			Jubbulpore.			Mandla.			Seoni.			Narsinghpur			Hoshang-abad.			Nimar.		
		Number.	Amount of fines.		Number.	Amount of fines.		Number.	Amount of fines.		Number.	Amount of fines.		Number.	Amount of fines.		Number.	Amount of fines.		Number.	Amount of fines.		Number.	Amount of fines.	
			Rs.	a. p.		Rs.	a. p.		Rs.	a. p.		Rs.	a. p.		Rs.	a. p		Rs.	a. p.		Rs.	a. p.		Rs.	a. p.
Non-Residence ...	Dismissed	...	...		...	...		...	...		1	...		...	...		1	...		1	...		...	...	
	Degraded	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...	...	
	Fined	9	28 10	0	7	89 0	0	2	19 0	0	1	5 0	0	...	...		1	8 5	4	...	...		1	10 0	0
	Suspended	...	...		...	...		...	...		...	...		...	...		2	...		...	...		...	...	
	Transferred	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...	...	
	Total	9	28 10	0	7	89 0	0	2	19 0	0	2	5 0	0	...	...		4	8 5	4	1	...		1	10 0	0
Misconduct ...	Dismissed	1	...		2	...		1	...		2	...		...	...		2	...		...	...		...	...	
	Degraded	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...	...	
	Fined	...	...		...	...		9	70 0	0	...	...		...	...		1	106 13	8	6	60 0	0	...	...	
	Suspended	...	...		...	...		2	...		...	...		...	...		...	...		...	...		1	...	
	Transferred	1	...		...	...		9	...		...	...		...	...		...	...		...	...		1	...	
	Total	2	...		2	...		21	70 0	0	2	...		...	...		3	106 13	8	6	60 0	0	2	...	
Neglect of work (including inefficiency.)	Dismissed	5	...		5	...		3	...		9	...		6	...		1	...		1	...		...	...	
	Degraded	...	...		...	...		...	...		1*	...		...	...		...	...		...	...		...	...	
	Fined	32	83 0	0	63	162 4	8	20	164 10	8	45	387 2	9	28	114 5	4	19	146 1	4	35	183 0	0	6	41 8	6
	Suspended	1	...		9	...		4	...		5	...		2	...		...	...		4	...		1	...	
	Transferred	...	...		...	...		...	...		2	...		...	...		...	...		...	...		...	...	
	Total	38	83 0	0	77	162 4	8	27	164 10	8	61	387 2	9	36	114 5	4	20	146 1	4	40	183 0	0	7	41 8	6
Dishonesty ...	Dismissed	...	...		2	...		...	...		1	...		1	...		...	...		...	...		...	...	
	Degraded	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...	...	
	Fined	...	...		...	...		...	...		...	...		...	...		...	...		1	5 0	0	1	47 2	
	Suspended	...	...		...	...		...	...		...	...		...	...		...	...		4	...		1	...	
	Transferred	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...	...	
	Total	...	...		2	...		...	...		1	...		1	...		...	...		5	5 0	0	2	47 2	
Pecuniary embarrassment.	Dismissed	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...	...	
	Degraded	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...	...	
	Fined	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...	...	
	Suspended	...	...		...	...		...	...		...	...		2	...		...	...		...	...		...	...	
	Transferred	...	...		...	...		...	...		...	...		...	...		...	...		...	...		2	...	
	Total	...	...		...	...		...	...		...	...		2	...		...	...		...	...		2	...	
Physical inability to stand out-door work.	Dismissed	...	...		...	...		2	...		...	...		...	...		...	...		4	...		4		
	Degraded	...	...		...	...			...		...	...		...	...		...	...		...	...		...		
	Fined	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...		
	Suspended	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...		
	Transferred	...	...		...	...		...	...		...	...		...	...		...	...		...	...		...	...	
	Total	...	...		...	...		2	...		...	...		...	...		...	...		4	...		4	...	
GRAND TOTAL ...	Dismissed	6	...		9	...		6	...		13	...		7	...		4	...		6	...		4	...	
	Degraded	...	...		...	...		...	...		1	...		...	...		...	...		...	...		...	...	
	Fined	41	111 10	0	70	251 4	8	31	253 10	8	46	392 2	9	28	114 5	4	21	261 4	4	42	248 0	0	8	98 11	2
	Suspended	1	...		9	...		6	...		5	...		4	...		2	...		8	...		3	...	
	Transferred	1	...		...	...		9	...		2	...		...	...		...	...		...	...		3	...	
	Total	49	111 10	0	88	251 4	8	52	253 10	8	67	392 2	9	39	114 5	4	27	261 4	4	56	248 0	0	18	98 11	2

* The same patwari was degraded and dismissed.

DIX II.

during the year ending 30th September 1901.

Betul.		Chhind-wara.		Wardha.		Nagpur.		Chanda.		Bhandara.		Balaghat.		Raipur.		Bilaspur.		Sambalpur.	
Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.	Number.	Amount of fines.
	Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p		Rs. a. p.		Rs. a. p.		Rs. a. p		Rs. a. p.
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4	5 0 0	...	...	...	...	1	...	...	...	1	...	...	...	4	...	1	...	4	2 0 0
...	...	1	...	4	...	3	...	5	...	...	...	2	...	16	...	...	...	1	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...
15	94 14 0	...	...	17	43 6 6	5	15 15 6	1	8 5 4	...	...	21	63 5 4	61	352 9 10	1	2 0 0	1	2 0 0
...	...	...	...	5	...	...	...	2	...	1	...	2	...	5	...	...	...	5	...
...	...	...	...	3	...	...	...	2	...	...	...	4	...	...	...	3	...	...	...
15	94 14 0	1	...	29	43 6 6	8	15 15 6	10	8 5 4	1	...	29	63 5 4	84	352 9 10	4	2 0 0	7	2 0 0
1	...	2	...	...	...	6	...	...	...	...	...	5	...	13	...	18	...	7	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19	...	9	...
6	26 12 0	6	33 5 0	40	91 7 4	32	128 15 5	32	276 4 6	50	(b) 120 2 9	10	30 8 0	25	142 10 10	106	826 12 3	128	238 0 0
2	...	1	...	1	...	2	...	...	...	1	...	...	...	1	...	32	...	3	...
...	...	2	...	1	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...
9	26 12 0	11	33 5 0	42	91 7 4	40	128 15 5	32	276 4 6	55	120 2 9	15	30 8 0	39	142 10 10	175	826 12 3	147	238 0 0
8	...	1	...	...	...	...	...	2	...	...	...	12	...	8	...	...	...	2	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	15 0 0	...	...	...	...	1	2 12 9	...	...	...	...	...	...	...	...	...	...	3	5 0 0
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	0 0	1	...	...	...	1	2 12 9	2	...	4	...	12	...	11	...	1	...	5	5 0 0
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9	...	4	...	4	...	11	...	7	...	...	...	19	...	40	...	19	...	11	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	20	...	9	...
24	141 10 0	6	33 5 0	57	134 13 10	38	147 11 8	33	284 9 10	50	120 2 9	31	93 13 4	86	495 4 8	107	828 12 3	133	247 0 0
2	...	1	...	6	...	2	...	2	...	6	...	2	...	8	...	33	...	8	...
3	...	2	...	6	...	3	...	4	...	5	...	4	...	1	...	3	...	3	...
38	141 10 0	13	33 5 0	73	134 13 10	54	147 11 8	46	284 9 10	61	120 2 9	56	93 13 4	141	495 · 4 8	182	828 12 3	164	247 0 0

(b) In addition Patwaris were fined Rs. 111-5-8 for Famine and Census work.

APPENDIX III.

List of Agricultural Implements which have been tested in the Central Provinces during the year ending 30th September 1901.

Those which have met with marked success are shown in italics in Column 2.

No.	Name.	Use.	Special advantage.	Price.	Where procurable.	Name of person reporting.	Opinion.	Extent to which used by native agriculturists.	Remarks of Official Reporter.
1	2	3	4	5	6	7	8	9	10
				Rs. a. p.					
1	*Swedish Plough* ...	Ploughing and inverting the soil.	Efficiency in ploughing and inverting the soil especially in breaking up grass lands.	21 10 0	Ankerbunk's Red Shop and Company. O'sverums, Sweden.	Director of Land Records and Agriculture Central Provinces.	See Column 10.	A considerable number are sold by the Nagpur Farm	Has continued to do very good work on the Nagpur Farm.
2	*Mayfurth's Hand-thresher.*	Threshing any crop ...	Cheapness and rapidity in threshing wheat.	127 6 0	Mayfurth and Company of Frankfort-on-Maine, Germany.	Do. ...	Do. ...	One was purchased for use in the Hoshangabad district, but the non-crushing of the straw is considered by the people a great defect.	Do.
3	*Iron Roller Sugar Mill.* (1) Three Rollers. (2) Two Rollers.	Extracting juice from sugarcane.	Efficiency in the extraction of cane juice and improvement in quality of syrup.	128 0 0 50 0 0	Messrs. Thomson and Company, Behia.	Do. ...	Do. ...	Established in one district (Betul) and coming into use in another (Chanda).	...
4	*Steel Roller Mill* (Rogers).		Do. do. ...	95 0 0	A. Rogers, Esq., Muzaffarpur, Tirhoot, Bengal.	Do. ...	Do. ..	One purchased by a landlord of the Bhandara district, and much appreciated.	...
5	*Dell's Winnower* ...	Winnowing grain ...	Winnowing and cleaning threshed grain.	265 0 0	Messrs. Dell and Company, Mark Lane, London.	Do. ...	Do. ...	Used by grain export agents, but not by cultivators.	Does good work on the Nagpur Farm.
6	*Walter A. Wood's Sultry Mower and Rake.*	Reaping grass ..	Rapidity in hay-making.	487 10 2	Messrs. Macbeth and Company, Bombay.	Do. ...	Do. ...	*Nil.*	Worked very satisfactorily on grass lands at Pachmarhi but on the Telinkheri reserve the soil is too stony for the class of machine.

7	*Macarthy Hand Cotton Gin.*	Ginning cotton ...	Rapidity in ginning and saving of labour.	220 0 0	Messrs. N. D. Maxwell and Company, Bombay.	Do. ...	Do. ...	.....	Works very satisfactorily.
8	*Hay Press* ...	Pressing grass ...	Preserves the aroma of grass and facilitates its storage.	516 12 9	Obtained from the Managing Director of Tramway Company, Bombay.	Do. ...	Do. ...	.....	It works very satisfactorily and the quality and aroma of the grass pressed remains intact during the whole time that the grass remains compresed in bales.
9	Martin's Plough ...	.....	....	7 0 0	Mr. T. Martin, Agra...	Do. ...	Do. ...	.....	This is too delicate an implement for our black soil.
10	Kolar Mission Drag Harrow.	.....	.....	28 0 0	Superintendent, Kolar Mission, Kolar.	Do. ...	Do. ..	.....	This is too light to be of much service.
11	Meston Plough ...	.....	.....	6 14 6	Director of Land Records and Agriculture, Northern-Western Provinces and Oudh.	Do. ...	Do. ...	... ..	This is too light for use on our heavy black soil.
12	*Cook's Heavy Beam Plough.*	.....	.....	38 8 0	Mr. Dunlop, Akola ...	...	Do. ...	.....	Proved to be of exceptional service in breaking up the new stiff soil at Telinkheri Farm.
13	*Hand Force Pump* ...	.....	.....	130 0 0	Messrs. Hayward and Tyler, Upper White Cross Street, London E. C.	Director of Land Records and Agriculture, Central Provinces.	Do. ...	.....	This is a useful pump for drawing water from wells for drinking and household purposes and can be easily worked by one person. After the pump is fixed the well could be covered up so as to prevent its pollution. (Tried on the Farm, 1899-1900.)
14	*Corn Shredder* ...	.....	Rapidity in cutting juar stalks (*Karbi*) into small atoms, the whole of which cattle are able to consume.	214 14 0	Mr. G. D. Harder, Empire Agricultural Works, Cobleskill, New York.	Do. ...	Do. ...	Several have been sold at the Nagpur Farm.	A very useful implement for cutting juar stalks into quarter-inch bits which cattle eat with great ease. It effects a great saving in fodder as nothing is wasted. It cuts very fast and is easy to work. A man working at the machine for half a day can produce chopped food for 30 head of cattle. It is also a very good machine for chopping maize stalks. A very sweet silage is prepared out of material that would otherwise be wasted.

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